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CLINICAL MEDICINE

Dependable Therapeutic Fact for Daily Use

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EDITORIAL DEPARTMENT

LEADING ARTICLES

WHAT OTHERS ARE DOING

LET'S TALK IT OVER

SPECIAL ARTICLES FOR FUTURE ISSUES

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Vol. 26, No. 5 May, 1919

As To The Causes Underlying Epidemic Diseases

AS shown by his two articles on the epidemiology of influenza, (this journal, Dec. '18, and April '19) Doctor Croft is convinced that he has raised very strong points against the bacterial origin of this disease, holding that bacteria as a cause are but a secondary factor, as, indeed, they are in all bacterial affections, and that, fundamentally, the disease must depend upon some other primary factor or factors; that bacteria, as such, can do no harm, unless the conditions of the body warrant their multiplication. Doctor Croft then asks: "What are the conditions that occur at certain intervals and which render these organisms virulent? What are the conditions that favor these germs and enable them to incite an epidemic." He asserts that more thought and study should be devoted to those influences that render our normal living-environment favorable for the growth and development of pathogenic bacteria. That we must discover the causes in this epidemic that have enabled these germs to secure such a firm grasp upon our system.

During the seventies and eighties of the last century, that is to say, in the early days of bacteriology, the discovery, that certain bacteria stand in manifest causal relation to certain infectious diseases, led to sweeping and extreme conclusions; it being assumed, especially by bacteriologists, that the cause of a disease is determined by finding the related microorganism. This extreme view never was accepted unconditionally by practitioners, and, as early as the late eighties and nineties of the last century, it was considered that something more than the presence and invasion of a pathogenic microorganism is required.

Then the idea of a peculiar predisposition was advanced, differing somewhat from that in which the term had previously been accepted. This, however, was not very satisfactory and, as great a clinician as Germain Sée declared that predisposition was merely a convenient term with

which to hide our ignorance. In further investigations, the actual importance of the "constitution" of the individual again came to the foreground, after having been discarded as nonrelevant, several decades earlier, and it was especially Martius, of Rostock, among others, whose investigations into the constitutional anomalies created more sensible views with regard to the causation of disease. It was again recognized that the constitutional peculiarities are a factor in bacterial maladies.

It has long been realized that the mere presence of pathogenic organisms upon the mucous membranes or in the tissues is not sufficient to produce infectious disease. There must be a receptivity on the part of the individual, a vulnerability of the tissues, a "weakened constitution" or a "specific predisposition", whatever one may wish to call it. This, however, would be purely individual, and it remains to be determined how it is that, at certain times, infectious diseases of bacterial nature (undoubtedly so, even though a specific virus may not be discoverable) can become epidemic and pandemic.

In this respect, we must search out factors that affect equally the populations of large regions, of entire countries, and even continents. Such general influences, naturally, must be looked for, first of all, in atmospheric and meteorological conditions, and which, indubitably, are of very great importance. Yet, whether such farreaching and decisive importance can be attributed to them as Doctor Croft believes, seems rather doubtful.

Another factor that assuredly stands in relation to the problem is the one mentioned by Doctor Lydston in his discussion of Doctor Croft's first paper, and this is, the crowd-factor. On all occasions when great numbers of people are crowded together for unaccustomed occasions, epidemics have been known to occur. This fact has been experienced during the present war, when many thousands of recruits and soldiers were housed in camps hastily constructed, and in which the demands of sanitation were not always satisfactorily complied with. It has also been observed as one of the consequences of war when the latter was associated with deprivation, exertion and other misfortunes incidental to war. Further, it has been experienced as a consequence of poverty, deficient nutrition, and, indeed, such other conditions as often affect certain portions of the population because of war.

Yet, wars are not the only occasion that may give rise to the crowd-factor as an active agent in the originating of epidemic diseases. Thus, it has been found that annual religious festivals in India regularly have demanded numerous lives sacrificed to cholera and to other filth-diseases. The annual pilgrimages to Mekka frequently are attended by numerous fatalities through infectious diseases; which, though, do not usually become epidemic, because of the limited extent, here, of the crowd-factor.

At the present day, more than ever, the enormous pathogenic importance of fear, of nervous stress, worry, excitement is recognized as instrumental in lowering the organic resistance to unfavorable influences. Christian Scientists not unjustly designate fear as a fruitful source of disease; fear being understood in its widest conception possible.

If we consider how the World War brought about a complete upheaval of our habits and how it interfered, not only with our physical and mental comfort, but, also profoundly influenced our sympathies, our personal apprehensions for the welfare and safety of friends and relatives; how, further, it affected our resources by depreciating the purchasing power of money, thus lowering, in a way, the standard of living, it can readily be understood that whole nations were in a constant state of nervous tension, excitement, apprehension, and even fear that could not but reflect unfavorably upon their vitality, their physical and mental resistance.

Undoubtedly, certain vitiated conditions of the atmosphere may, in part, be instrumental in creating a favorable nidus for infectious bacteria, by irritating the upper respiratory passages. By crowding, normal living-conditions are made impossible, and, lastly, by severe nervous strain and stress, anxiety, unhappiness, which afflict entire nations during periods of war, primary conditions may be created that produce a culture-soil favorable for the production and proliferation of infectious bacteria, which thereupon, because of that factor, may acquire pathogenic properties and thus give rise to widespread disease.

It is to be kept in mind that the "facultative" noxious parasites may reside upon mucous membranes as saprophytes, without being able to determine disease. The

reason for this is, that, in the individual, the systemic defenses are of a nature to more than balance the inimical tendencies of the bacteria and thus to prevent their disease-producing activity. Sometimes, though, this balance is a very delicate one when it does not take much to depress the organic resistance, in which case the bacteria rapidly develop their harmful peculiarities, with the consequence of producing disease.

If the causes that thus depress the systemic resistance are widespread, affecting similarly the majority of inhabitants of a city, a county or a country, the conditions for an endemic or epidemic development of infectious disease are given, and this may become pandemic if the several factors active in the first production of the disease are spread over the inhabited globe.

Every man has to have a little corner of his soul which he can possess alone; he has an hourly reckoning which he alone can make to his Creator; he has an inward light or voice which guides him, which he alone can see and hear.

MISSOURI PHYSICIANS WATCH OUT!

We are informed that there is pending, in the Missouri state legislature, a bill, known as House Bill 909, which requires physicians dispensing their own medicines to place upon the receptacle a label or card stating, in the English language, the name of each drug contained therein and the exact amount of each ingredient.

This is, of course, another of the numerous efforts being made by certain people to interfere with the doctor's right to dispense his own medicines. Attacks of this kind are becoming less direct, but, more insidious.

We strongly advise every Missouri physician to communicate, without delay, with his representatives in the legislature, telling them, in language that they can not misunderstand, exactly how they feel about bills of this character.

THE VICTORY LIBERTY LOAN DRIVE AND THE W. S .S.

During the last days of April and until the tenth day of May, the Fifth Loan campaign will be inaugurated by the Treasury Department of the United States government for the purpose of raising the funds needed to pay the bills incidental to our entry into the war. This campaign is to be called the Victory Liberty Loan Drive in commemoration of the happy ending of the war.

We might write pages concerning the necessity of supporting the government in this matter. The plain and perfectly convincing argument is, that the money is needed. The bills are there and have to be paid. If the money is not placed at the disposal of the government by way of loan, it will have to be raised by taxation, and, there you are. So, it's a very simple proposition and, as honest debtors who want to pay their bills, we simply have to come across.

It seems unnecessary to make much ado about it; the object is a just one. We went into the war whole-heartedly with a single eye to the object to be gained, that is, to administer a merited rebuff to the arrogant autocratic powers that had attempted the subjugation of the democratic European nations, and to defeat their object. It sounds beautiful to say that the United States entered the war without any selfish or personal motives whatever but simply to make the world safe for democracy. Nevertheless, it is perfectly manifest and self-evident that our own peaceful pursuits were in more or less actual and serious danger if so be that the aspirations of the central powers were successful. Hence, in a way, we entered the war to insure our own safety, our own industry and commerce. And, this is by no means an objectionable cause for war. In one sense, even, we fought to secure and assure our own existence.

All this being so, it follows as a matter of course that we should, and must, be willing to pay the bills. When this issue of CLINICAL MEDICINE reaches you, the loan campaign will be in full swing. Be sure to invest all the money you can in it, not only for the purpose of aiding the government to meet its obligations, but, incidentally, in order to take advantage of an opportunity for making a remarkably safe and profitable investment. Let the Victory Liberty Loan be the most successful ever inaugurated by the government.

Incidentally, let us keep in mind that the thrift stamps and War Savings Stamps continue to be sold and that investment in these bits of paper is a very easy way to

save small sums of money without a serious sacrifice. For the children, these baby bonds, as they might be called, constitute a lesson in thrift and saving the value of which can not be overestimated. It should be the pride of every child in this big country of ours to buy thrift stamps, going without sweets occasionally, if necessary, and to convert them into War Savings Stamps as often as this can be done. For grownups, also, one or several cards filled gradually with those War Savings Stamps is a very satisfying possession and one the increasing growth and value of which can not but make for greater contentment and security.

A man wants a human being beside him, who is there when he wants someone, but who will let him alone when he wants to be alone.

THE SALVATION ARMY WANTS MONEY

Eh, what's that? The Salvation Army wants money? So be it. Let's dig down and hand it over.

Time was, not so long ago, when those little gatherings down-town, at the street-corners, in the market-places, where a few Salvation Army people would draw a little crowd, singing and exhorting and praying, elicited but a supercilious, cynical smile from our superior, stronger-minded selves.

The Salvation Army, then, was looked upon as an aggregation of religious cranks, innocent and harmless enough, but, whose literal acceptation of the Bible, literal in the sense of orthodox interpretation, was almost childishly impracticable and impossible.

Yet, hold on, brother, that same unpractical and impracticable Christianity induced the Salvation Army to go into the tenement districts, the tenderloins, the worst places in the cities to get a hold of the submerged, the down-and-out, the hopeless, the flotsam and jetsam of the populace, to save and reclaim those that could be salvaged, to soothe and comfort the last days of those that no longer could be saved to life. It was the most practical and actual kind of Christianity that the soldiers of the Salvation Army preached, by living it, by doing more than by talking.

And, so, it came about that people who had sneered at the blue-clad men in their semimilitary uniforms and the lassies with their quaint poke-bonnets changed their sneer to a half-tolerant half-sympathetic and admiring smile, and never failed to drop a quarter or a half dollar or even a greenback when the ever present tambourine was held out to them. There was something real, something appealing in its honest truthfulness that got under your skin, and you just couldn't refrain from helping a little here and there.

Then came the war; and, with the war, the problems of the Salvation Army were multiplied manifold. The Red Cross, the Y. M. C. A., the Y. W. C. A., and the other welfare-organizations had no difficulty in receiving ample means and resources for their beneficent work. The Salvation Army went in without blare of trumpet, without saying much about its intentions, just going ahead and acting upon the idea that, to the boys in the trenches, to those who come back from valiant but exhausting fighting, to those who worked and fought and labored, the home creature-comforts would be most acceptable.

Has there ever been a soldier-boy to whom a cup of hot coffee with a couple of "sinkers" did not appeal? It was, truly, an inspiration of genius that moved those wonderful Salvation Army lassies—we don't know their names, but, their memory will live—to establish themselves in little huts as near to the trenches as they could and have ready for the men coffee and doughnuts whenever these might be called for.

While "coffee and doughnuts" has become almost a slogan by which the war-work of the Salvation Army is identified, the activities of this astonishing organization have been truly magnificent and all-embracing. The accomplishments of its members in the theater of war have been recorded many times and the soldiers returning home never fail to express their admiration and their deep and lasting affection for the soldiers of the Salvation Army.

With all this immense work, though, the various activities of the Salvation Army at home could not be interrupted and, indeed, had to be continued and car-

ried on even more intensely than ever before, since so many families were left without father, husband or brother, whose earnings formerly had helped to keep the wolf from the door.

So, the Salvation Army again stepped in, or, rather, remained right there, and accomplished its task unassumingly, cheerfully, encouragingly, helping where help was needed, stimulating, supporting, always trying to live, and thus to teach and emphasize, the lessons of Him whose servants and followers they are.

There are many other activities in which the Salvation Army has been foremost, many in which it has done pioneer service. And, now, through the demobilization of the soldiers, the duties—self-imposed, if you will—of the Salvation Army at home have become even greater. Its aim is, to continue to be, as it always has been, an organization of poor people for poor people. Moreover, Commander Evangeline Booth has decided that the constant collections in the street shall cease, so that the officers may devote their entire time to constructive work.

All this calls for money, much money, and yet more money. It is because of this that the appeal is being made to the American public for a fund amounting to thirteen million dollars, which shall enable the Salvation Army to continue its work. The campaign for raising this sum will be conducted, all over the United States, during the week of May 19-26.

Thirteen million dollars is a big sum. It is real money. Yet, it seems small when we consider what the Salvation Army has done, what it is doing, and what it has set itself to do. On the letterheads of the Salvation Army, there is printed the legend in red ink, "A man may be down, but, he never is out". If it were only for that and everything that it stands for, the Salvation Army would deserve every support that we can give it.

So, let us physicians do our share, not only by going into our pockets, but, by speaking to our friends in behalf of the Salvation Army, by encouraging and requesting others to help and give. Surely, the aim and purpose are worthy, the work is one for which the Salvation Army is peculiarly fitted because of its great understanding and love for the unfortunate. Let it not be hampered by lack of funds. Let it be supported in every way possible for this important and essential work that is being done.

Usually when a man demands an explanation" he is looking for a bone of contention, and means to find one, meat or no meat upon it.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION

The next annual meeting of the American Medical Editors' Association will be held at Atlantic City, Marlborough Blenheim Hotel, on June 9 and 10; that is to say, on the first two days of the meeting of the American Medical Association.

As this will be the fiftieth annual meeting of the Association, a special effort is being made to secure a full attendance of the membership and to arrange a program fitting the auspicious occasion.

Now, doctor, of course, you are going to attend the meeting of the American Medical Association. Even if you are not a medical editor and not privileged to belong to the august association of the medical editors, you are cordially invited to attend the meetings, and you will enjoy them, for, we assure you there will be a lot of brainy fellows to be met and many interesting communications will be read.

CRYING NEED OF THE TRANSITIONIST

In this age of specialism, why have we no transitionists — practicians peculiarly qualified to treat conditions presented in that great middle field where the pediatrist fears to tread and the geriatrist is uncalled-for?

That the young human, after having been safely convoyed through the dangerous waters of infancy, begins, at about the seventh year, to leave the neuter class and to assume either male or female characteristics, is understood; still, the real importance of this first great transitional period is not generally recognized. True, now and then, some physician circumcises a "nervous" (usually a male) child or removes from school and prescribes iron for the underweight, the anemic youngster that cries more readily than he laughs and prefers playing "house" alone to wild romps with other children.

To bring the matter definitely home, ask yourself what *you* know about the normal changes (to say nothing about the systemic

disorders) occurring at that period of life. If your self-examination is rigidly honest, the verdict is more than likely to be, "Guilty of ignorance."

Advance seven years and consider the boy or girl of fourteen or thereabout. What do you know about or do for them, passing, as they are, through one of the most important transitional periods of their existence? Again, it is to be feared, an honest appraisement of your intellectual resources will reveal a condition approaching professional bankruptcy.

Of course, you can enunciate some platitudes concerning the "disorders of puberty" and even may have had acumen enough to suggest delicately to parents the desirability of having confidential talks with their offspring; *but*, what have you told them to look out for—what, as a matter of fact, are you prepared to *do* for those boys and girls presenting other than the most obvious symptoms of disequilibrium?

Can you even assure yourself that you are able to recognize the vague train of symptoms that so often ushers in paranoia; or, if you can do that, are you, even in the slightest degree, familiar with their true cause or able effectually to remove it? Are you not likely to make shift with such diagnoses as hysteria, neurasthenia, chlorosis, and such like, and institute lines of treatment as indefinite as your diagnoses are nebulous?

Let us be charitable to ourselves and pass over the next transition-period. Any general practician knows what to do for the young man or woman entering the married state, while the obstetrician will take care of the young mother later. After him, will come the gynecologist and the genitourinary man.

Time flies and "seven times seven years" have passed. The woman enters her "climacteric" and begins to demand attention. We are likely to consider that we know just how to proceed under these circumstances. But, do we? Do *you?* To administer sedatives and assure the unhappy woman that she is but traveling the road trodden by all daughters of Eve that live long enough to reach that age, should not satisfy you, and, most assuredly, it does not materially aid that patient.

Most of us, unfortunately, have accepted the dictum that the man does not experience a climacteric. Yet, the gonads and other glands, which for decades have been active, gradually cease to function, and more or less pronounced physical and psychical changes accompany their involution. Loss of balance of the internal secretions means circulatory disequilibrium, nutritional disorders and cell degeneration —the very conditions that inevitably lead to sclerosis and the senile state.

That so many men of fifty or fifty-five "break down", is deplorable; that others, at this period, do most ridiculous or even disgraceful things, is equally regrettable; however, the most distressing fact of all is, that the medical profession, as a whole, is not capable of meeting these conditions.

Profound changes are occurring in the physical economy of such patients, and very serious consequences result from our inability to recognize and control them. Rest, change of occupation and of climate, sojourn in a sanatorium or a "reconstruction-camp" may prove beneficial in certain cases; still, they can not be regarded as definite remedial agencies.

To treat such patients intelligently, we must have a reasonably lucid idea of the basal pathology, and, to obtain this, more than a little study and research-work is necessary.

Truly, the need for the transitionist is great, and his field, when he arrives to till it, will be a fertile one.

I don't give a whoop for an innocent man or an innocent woman. They're good because they never had the chance to be bad. Gi'me the man or woman that has turned a dirty trick, and then's so disgusted with themselves that they're vaccinated for all times. —A. P. Hawkins.

"THAT AUTOMOBILE TRIP"

According to program (we are writing on March 22nd, the day after commencement of spring), that automobile vacation trip is coming more largely into our vision. Last month, we talked about our intention to take such a vacation jaunt this season, and, also, we referred to our plan to have a symposium on automobile vacations to appear, possibly, in the June issue of CLINICAL MEDICINE.

As we are writing, the sun is shining brightly and the roads are beginning to lose their wintry unfriendliness. The air is bracing enough to make an automobile ride a keen enjoyment. That promises well for the future, and we just want to remind you that we expect you to come across with accounts of your experiences. Turn

back to pages 170 and 171 of CLINICAL MEDICINE for March, and read again what we asked for. Let us have your little write-ups, please, so that we can have ample time to get up a big automobile number.

Prejudices are like rats, and men's minds are like traps; prejudices get in easily, but it is doubtful if they ever get out.

"FACTS AND FALLACIES CONCERNING CANCER"

In his very interesting and instructive article on cancer, appearing among the original contributions of this issue, Dr. G. Betton Massey presents some very important information that it will be well to take to heart. Dividing, as Doctor Massey does, the life history of a cancerous growth into three periods, affords a means of roughly classifying cancerous growths with regard to their amenability to treatment. Naturally, the most favorable results may be expected from appropriate and persistent treatment during the first period.

However, during this first period, a cancer resembles in almost all respects a benign growth, being neither tender, painful, ulcerated nor hemorrhagic. Consequently, it will invariably be viewed as a benign growth, clinically, the more so as it is now recognized—as Doctor Massey points out forcibly—that under no circumstances must a suspected growth be incised for the purpose of securing a specimen for examination, on account of the danger of metastasis by extension through lymph channels.

How then is a malignant growth in its first period to be recognized? Doctor Massey asserts that, when first acquired, cancer is purely local and indeed, that it is not a constitutional disease. With this view, we are tempted to disagree, basing our conclusions mainly on the experiences and observations laid down by Dr. L. Duncan Bulkley in his two volumes on cancer and also in numerous journal articles, one of the most informative having appeared, a few weeks ago, in the *New York Medical Journal*. Doctor Bulkley maintains emphatically the contrary view, namely, that cancer *is* a constitutional disease, and that it is the expression of a "cancerous" diathesis which even before the localization of a definite growth (whether characteristic in appearance or not) presents certain peculiarities that are at least suspicious. If we have read Doctor Bulkley correctly, one of the principal characteristics of "carcinosis" is persistent acidosis.

In a discussion on cancer, at the April-9 meeting of the Chicago Medical Society, the statement was made that cancer never was "simple", and that as soon as there was carcinoma, there might be very large metastatic processes, though they were often overlooked. One speaker viewed cancer as a universal disease. He believed that everyone (N. B., in civilization) was carcinomatous, and the fact that so many escaped the disease was because of a certain power of resistance which prevented its development.

However this may be, it seems to us more probable that cancer itself must be accepted as a constitutional malady, its outbreak being associated with a more or less definite cancerous diathesis. The varying views on the subject merely show the difficulties standing in the way of a definite solution of the problem.

No matter, though, how the nature of cancer may be viewed, the conclusions with which Doctor Massey closes his brief paper should be kept in mind and, more particularly, it should be remembered that there is urgent need of more general education regarding those facts that we do know, and with respect to those precautions which have been proved possible and useful.

ARE WE GOING "BUG"-HOUSE?

The discussions occasioned by the pandemic of influenza that set in last June and has since then manifested several exacerbations are typical of a certain tendency on the part of workers in medical scientific fields the world over. Given a disease or a symptom-complex that presents characteristics associated by us with the consequences of the invasion of a definite pathogenic virus, and there is at once set in motion a complicated machinery intended to discover the "germ"—be it bacterium or protozoon—that may be incriminated as the causative agent, and it is upon the discovery of such a definite virus, more or less putative, that the treatment of the clinical conditions supposedly owing to its action is based.

Take this present influenza-epidemic. The disease was given its name because

of the occurrence of a certain group of symptoms that we have been associating with influenza, and because it is imputed to the pathogenic action of the particular bacillus discovered by Pfeiffer and named after him. The inability of many bacteriologists to discover this organism in influenza-patients as also the fact that it was found present in persons not afflicted with the disease was explained in various manners, and the attempt was made to treat influenza-patients with a vaccine prepared from cultures of the socalled influenza-bacillus of Pfeiffer.

However, the results of this treatment were nothing to boast of, while the bacillus-influenzæ vaccine evidently did not immunize the patients against the germ or germs actually involved. On the other hand, polyvalent bacterins containing a considerable number of microorganisms that frequently are found in the secretions of patients ill with respiratory infectious diseases did shorten the course of the disease, while there is insistent evidence that this preparation is capable of preventing the occurrence of the disease altogether providing that it is administered sufficiently early.

Regarding the presence of Pfeiffer's bacillus in influenza, Dr. Beverly Robinson (*Med. Rec.*, March 29) asserts that, in his opinion, too great importance is being attached to it. It may be found, and often it is, when there are general symptoms of a grippal nature; and, if so, the positive diagnosis of influenza is made. However, if this bacillus is not discovered, Doctor Robinson asks, should the treatment be any different?

Doctor Robinson evidently prefers to treat the patient for what ails him, instead of treating the name that may be tacked onto the aggregate of symptoms presenting themselves; and it seems to us that, ultimately, this view is far more reasonable than is the attempt, in every instance of supposedly bacterial disease, to isolate one certain microorganism and to blame it all on that one virus, which then is made the basis of a supposedly curative bacterin.

It is safe to say that in not a single bacterial disease, at least whenever the infection occurs through the respiratory passages, is the *causa causans* a solitary one. Almost invariably, the cause is multiple, a number of different bacteria constantly being found in the secretions. On this account, we are of the opinion that the administration of multiple vaccines or bacterins is reasonable, irrespective of how "shotgunny" they may be. It may not be scientific. Indeed, we have a sneaking idea that it is better to be reasonable than to be scientific if science is not reasonable.

However, Doctor Robinson is quite right in insisting that the symptoms that are being declared in a certain case of illness should be recognized and that proper treatment should be administered, so as to remove the cause that is giving rise to them. If that is symptomatic treatment, let it be so. The present writer holds that symptomatic treatment very often is justified and is far better than "expectant" treatment, that expects to do nothing for the patient.

Observations during the last few years have impressed us with the idea that, strictly, the etiological treatment, in the sense of specific vaccine- or bacterin-treatment, is not always required. The purpose of such treatment being, to stimulate the production of specific antibacterial substances, any procedure that will bring about this result is calculated to be beneficial. For this reason, for instance, it often is better to administer remedies that produce a decided leukocytosis than to wait for the determination of a causative bacterium and then for the preparation of an autogenous or procurement of a stock vaccine or bacterin. By administering a dose of nuclein, for instance, the defensive mechanism of the organism is activated, so to speak, or its activity is enhanced. No time is lost, as it would be if the patients were left to the mercy of "expectant" treatment, without any effort being made to relieve the symptoms.

Perhaps we are too anxious to nail a definite "bug" in connection with every infectious malady that we are called upon to recognize and treat. We are prone to leave out of sight the possibility of taking measures for the relief of the consequences of infection. We forget that there are certain broad principles upon which, say, a fever-patient may be treated, even though the name of his particular fever may not be recognized. In our eagerness and anxiety to hunt for bugs, we are in danger of becoming onesided, of forgetting the patient in the disease, and of neg-

lecting that task that is imposed upon us when we are consulted by a sick person.

We can make ourselves uncomfortable to any extent with perhapses. You may stick perhapses into your little minds, like pins, till you are so uncomfortable as the Lilliputians made Gulliver with their arrows, when he would not lie quiet.
—Ruskin, "Ethics of the Dust."

OUR PROGRAM

As announced in an earlier number, and also on another page of this issue, we intend to have the June issue of CLINICAL MEDICINE an Automobile Vacation Number, and hope that everybody having had experience in vacation- or other pleasure-trips will write about it.

That is not all, however; we shall welcome communications from men who know through personal experience about everything concerning the automobile as a physicians' vehicle. We should like to have a few pictures of garages as they have been constructed, perhaps from original sketches or in so far as the arrangement is original. We remember, a few years ago, one plan in which a physician had housed the automobile very cleverly in the basement of his house, the approach being by a slight downward incline from the street. That would make for greater comfort in "boarding the ship" and leaving the house. Incidentally, it would prevent freezing, which is quite a problem in unheated garages, and seems acceptable in every way except one: how is the danger of gasoline explosion guarded against?

There are other things connected with the use of automobiles that must be of interest. Tell us about them.

For July, we are planning a discussion of the ever recurring subject of summer diseases. These do not afflict only babies but also children and grown-ups. Let us talk about babies' diseases by all means. But, let us not forget the children and adults.

For August, it is intended to devote particular attention to electrotherapeutic and other physical healing procedures, including light, radium, and, in short, all the physical agencies that have been developed so carefully in the last decade for the successful treatment of many acute and chronic maladies. Here again, much information and experience must be tucked away in the brain boxes of many of our readers. Let us not be clams but let us share that knowledge that we have acquired in our everyday work and practice through painful experience. It may be that a relation of our difficulties and of our ways of solving them, even an account of our failures, may be of service to some brother physicians, and through them to many patients.

The influenza epidemic shows signs of abating. Probably many physicians are less busy than they were through the winter. Utilize a little of your spare time by thinking over your experiences—not on the subject of influenza (we have had enough of that), but on those matters to be discussed in the next few numbers. Sit down and write to us and let us all share in what you have learned.

ABOUT WRITING FOR PUBLICATION

In our editorial articles, as also in our editorial comments, and in our correspondence, we frequently ask for contributions from physicians in active practice because we are convinced that the personal experiences of men in general practice are of greater value to their peers, that is to say, to other men in practice, than are the more or less theoretical disquisitions of erudite clinicians who have methods and resources at their command that are not available to the man in the field.

Our frequent requisitions meet, we are grateful in stating it, with cordial response, and the "Let's Talk It Over" department of CLINICAL MEDICINE shows indubitably the interests that our readers take in *their own journal;* for, make no mistake, CLINICAL MEDICINE *is your own journal* for you to make it as you wish to have it.

Naturally, we receive all sorts of communications from all sorts of physicians; some beautifully typewritten, double-space, faultless in diction and transcription; some in manuscript, though written clearly and evidently copied from a corrected draft; still others—Gee! all too often the editor throws up his hands and cries "Kamerad". He simply can not decipher the screeds and has to pass them on to the poor typewriter for copying before he can read the article submitted.

We admit freely that an article, or letter, jotted down off-hand is better than none at all; also, we remember having told you in the past that we are quite willing and glad to put your letters in proper shape.

Just write them down as you can and we will do the rest. To this we still adhere, only it seems to us that it would be of benefit to the writer himself if he were to take as much pains in preparing his own paper as he wishes us to take in getting it ready for publication. Moreover, a physician whose communications to a medical journal are written in hieroglyphics or in the form of cuneiform inscriptions stands a good chance that his prescriptions to druggists, and also important business letters, will fall into hands whose owners are not artists (as our operators are) in deciphering illegible handwriting.

The answer is easy. At the present time, the typewriter has become almost as much a household institution as has the telephone. It does not require a six-months' course in a business college to learn to manipulate the "typing" machine; in fact, a few hours of investigating study and fifteen to thirty minutes of practice a day will enable any man or woman of average intelligence to master the mechanical intricacies of the typewriter so as to become quite proficient in its use. We ourselves never did take a course in typewriting, yet, we use the machine in preference to the pen, in fact, we can write more rapidly with it than we can by hand; and. certainly, more legibly.

Another thing, if we once have become accustomed to use the writing machine for everything that we wish to put on paper, it will prove a great source of comfort and convenience. Not only articles for publication, but letters, mainly business letters but also personal ones, are readily gotten out with greater ease than in the old way, and there is the great advantage that one can always have a carbon copy of everything written. In writing prescriptions, the typewriter makes mistakes virtually impossible, and the same is true in writing out directions for office patients. Finally, the youngsters, once they have become old enough to treat the typewriter with due respect, will joyfully embrace the opportunity of preparing their little themes and compositions, cleanly and neatly, and thereby merit the glad approval of teacher.

While we do not "kick" on receiving pen-written letters, we do say that it is a joy to receive a nicely typewritten communication. But, whether typewritten or pen-written, a clean, tidy letter or article reflects upon the writer himself. Writing on any old scrap of paper, with the stub of a pencil, or with a scratchy pen, or with a chopstick, in scrawling characters, on both sides of the sheet, with copious erasures and interpolations—all these things necessarily tend to irritate the editor who is but human and often very busy. Such strenuous (in the work required to decipher them) communications sometimes are laid aside until the more attractive ones are considered. Suppose you buy a typewriter. It doesn't cost so much and the advantages are far greater than the cost.

OPTIMISM

"IT is just as easy to go through life looking for the good and the beautiful, instead of the ugly; for the noble instead of the ignoble; for the bright and cheerful instead of the dark and gloomy; the hopeful instead of the despairing; to see the bright side instead of the dark side. To set your face always toward the sunlight is just as easy as to see always the shadows, and it makes all the difference in your character between content and discontent, between happiness and misery, and in your life, between prosperity and adversity, between success and failure."—Orison Sweet Marden.

Leading Artieles

A Tribute to Beriberi

By HARVEY W. WILEY, M. D., Washington, D. C.

BERIBERI is the Japanese name of a disease that apparently is of modern origin. Its Greek name is, polyneuritis, and its common name is, dietary deficiency. The occurrence of beriberi, the discovery of its cause and a successful method of its treatment have created a new era in dietetics.

It is one of the curious antitheses of medicine that some one has to suffer, man or other animal, in order that the scientific observers may search for the real cause of the trouble and seek for its remedy. The sufferings which these martyrs endure in the end become blessings to humanity. If John Harvard had not died, at the age of thirty, of tuberculosis, Harvard University would never have been founded. It is undoubtedly true that the old expression "The blood of the martyrs becomes the seed of the church" is well founded. The heroes who gave their lives to determine the real cause of yellow fever are deserving of lasting monuments and undying fame. Beriberi and tuberculosis ought not to be forgotten.

Up to the era of the discovery of the cause of beriberi, the principles of correct diet were based upon the supply of a so-called well balanced ration. We were taught that the human animal, in order to grow, enjoy health and be able to multiply his species, required a certain proportion of food giving a definite evolution of heat and supplying the needs of growth and repair. We were taught that this balanced ration consisted of certain amounts of protein, carbohydrate, fat and minerals. Much to the astonishment of the physiologists, it was discovered that, when an animal was fed pure protein, pure carbohydrate, pure fat, and pure mineral, it failed to grow, gradually lost weight and finally died. The peculiar contrast was presented of impure foods, that is, impure from the chemical point of view, being far better than foods that are pure from the same point of view. Then came Funk and his followers inspired by the discovery in regard to beriberi, who disclosed to a certain extent the nature of the vital element in foods. From the Latin word for life and because he believed it to be of nitrogenous character, Funk called this new substance vitamin, in other words, the amine necessary for life. Whether or not the assigned reason is a correct one, the name seems to have come to stay, whatever the final chemical nature of the vitamin principle may prove to be. This discovery incited physicians, physiologists and biological chemists to look further into the nature of many common diseases.

It had long been known that scurvy was related in an intimate way to foods. It was particularly a scourge for sailors under the old fashioned methods of travel when, often, they were many months at sea and had no access to fresh meats, vegetables or milk. Before the days of beriberi, it was discovered that citrous fruits, or their juices, proved to be antidotal to scurvy. It was not a difficult step to show that scurvy also was a disease of dietary deficiency and that the citrous fruits, fresh meats, vegetables, especially tomatoes, and milk had antiscorbutic properties, in other words, contained a vitamin antagonistic to scurvy. Pellagra also was suspected of being a disease of dietary deficiency and this assumption has been proved correct by the investigations of the scientists of the U. S. Public Health Service, who have been able to produce artificial pellegra, or, perhaps, I had better say purposeful pellagra, just as beriberi and other forms

of polyneuritis are produced in the same way.

Our whole system of diet, therefore, has to be reconstructed from the discoveries of the last 15 or 20 years. These discoveries have particularly emphasized the food value of the external coatings and germs of the cereals. This value rests not alone in their content of ordinary digestible foods, but exists particularly by reason of the water-soluble vitamin contained therein. One of the easiest experiments to carry out is, the production of beriberi in fowls by feeding them polished rice, bread made of white flour and degerminated and decorticated Indian corn meal. The production of pellagra is much more difficult but not at all an impossible experimental problem.

In the comic papers, we have all been regaled by the cartoons entitled "Bringing up Father". A similar course of instruction is necessary for the medical profession, especially those of us of the older school. As I recall my own medical training, I can not remember a single lecture on dietetics that had any kind of a foundation except pure empiricism. In as much as food has such an intimate relation, not only to prophylaxis, but, also, to therapeutics, we need a series of cartoons or some similar form of instruction illustrating the bringing up of the old doctor. Perhaps there is no point in medicine so confusing and conflicting as the dietaries prescribed by the attending physician in cases of illness, and, likewise, for children and grown persons as a preventative of disease. The very foods that have been most denatured and, therefore, are least wholesome and assimilable, are constantly prescribed by physicians for the well as for those ill. The function of leaf vegetables, for instance, so important in dietetics and carrying as they do the chief fat-soluble vitamins, are those that the physician too often neglects. On what scientific grounds can a physician recommend the most refined foods, those of least nutritive value? By reason of a fear of irritating the stomach. Bromato-prophylaxis and bromato-therapy are two themes in our medical education that can no longer be neglected.

Let us bring a tribute to beriberi as an incitant to fruitful study.

A Commonsense Essay on Diet

By GEORGE F. BUTLER, A. M., M. D., Wilmette, Illinois
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THE subject of diet, even in its main ramifications and without going into minutiæ, is of so vast a nature and entails so many consequences, good and bad, that a big book might easily be filled up with it. In this dissertation, I shall content myself with discussing some of its fundamentals that are not frequently enough considered, adding such details of illustration and experiment as seem sufficient to afford a good working-knowledge of the principles involved. In this, as in the other branches of applied therapeutics, the real teacher is one who judiciously combines intelligence and practice. I can scarcely more than indicate the direction in which this intelligence and this practice are to be exerted.

As soon as we have accepted, as we must do at the outset, the scientific (and moral as well) dictum that "So much of food and drink is to be ingested as will refresh, not, oppress, the powers of the body," we are at once confronted by what appears to be something impossible; namely, to make a correct estimation of the digestibilities of the different nutriments, together with the digestive ability of each individual. But, at this point, we must remember that the practice of dietetics rests upon the cumulated experiences of mankind; that it is not a new problem, to be solved by a series of algebraic equations, that much of this knowledge has already been digested for us through a long acquaintance of the human mind with its practical aspects, and that out of this ages-long familiarity there has emerged a first and all-important law for our guidance, which law demands temperance—a term that stands for the affirmative *enough* as strongly as it does for the negative *not too much*. However much in the dark we still may be as to the proper course to steer be-

tween these landmarks, we know that they are there. And this is the first essential step toward finding them, even though we already know that their positions in the life-stream vary with the passing of every vessel between them.

Racial More Than Individual Importance of Dietetics

To begin the question at its logical basis, we doubtless should understand, as a premise, that the problem of diet neither stops nor begins with the individual, that the life of the race is alone the proper criterion, and that only the future can speak with authority about any present deviations from such rules of diet as have been established by our fathers by testing, rejecting, adopting. For, it has already been shown that a diet that may make for apparently full vigor and well-balanced living in one generation may not suffice to carry on the germ of full vigor to the next generation. Of course, it would appear at first glance that a vigorously nourished organism would be better able to procreate its like than can an organism of inferior energy; still, experience demonstrates that the vigor of the parent-cell, the germ-cell, may be quite different from the vigor of present living tissues and organs; the latter merely exhibiting in detail the powers peculiar to each, while the parent-cell combines and concentrates within itself the potencies of a whole organism; so that, in fact, it is anything but an unusual occurrence for physically and mentally weak specimens to spring from the loins of the seemingly physically and mentally strong. That science can not escape or evade these fundamental facts, adds immeasurably to the complexity of the subject of dietetics; for, it is food that has formed the soil from which all men have sprung originally, no matter whether they be weak and feeble or strong and robust.

When we have studied digestion in the test-tube and retort, thus determining the coefficients of digestibility of the various foods, the result is a purely chemical one. We are not thereby informed what will be the relation between the same food-elements and the amount of digestive energy which their stimulus will incite in the living tissues of the body. Moreover, it is found that, not only does each different food meet with a different response from the tissues, but, even the same food elicits different responses from the same body at different times, the organism being very far from a constant entity.

Force Generated Not in Direct Ratio of Food Ingested

Furthermore, the power of extracting the nutritive elements from the food varies greatly with a given individual, as also with the same individual at different times. Also the power of absorption, of storage, and of synthesis of these constituents—that is, assimilation—varies with the individual and his condition of health, as does the power of developing energy from these potentials. The extracting powers belong to digestion proper, and the variability of the process may be evidenced by the food remainders. The powers of absorption, storing, and building up the materials prepared by digestion are anabolic. They induce an accumulation of potential; but, in proportion to the *quantity* of this potential absorbed, its availability in respect of its *site* of storage, and its availability according to the *stability* or *instability* of the synthesis formed, will be the efficiency of the individual's assimilating-strength.

The powers of developing energy from the potential in storage are katabolic, upon the completeness of which all depends; namely: the reduction of the complex molecules to their simplest expressions, as well as the rate at which this fall of potential occurs. This, also, is individual and will vary with the stages at which the degradation of the complex molecule is arrested, and with the rate of downfall, whether fast or slow. Therefore, when we are told that so and so many units of nutritive constituents have been taken in, and that these units, as a result of complete combustion, will develop so and so many heat-units, then, what we really wish to know is, how many nutritive units have been extracted and stored by this particular person and how much of the potential energy so introduced will be available for his use?

Moreover, another difficulty arises in this very question of utilization. If, as a result of combustion within the tissues, a certain number of energy-units has been realized, how will such energy be utilized? The body requires many and various kinds of energy, here, heat for warmth of the organism, there, electricity, in another place, mechanical force through muscular contractility; while some chemical combinations must be released at the cost of so

much energy, that energy which is locked up as potential. Because this much energy has been realized, it does not follow that it will be transformed with ease and economy in all its units; for, there will be waste and leakage at each transformation of one form of energy into another, the human organism not being a perfect transformer. In fact, it has been demonstrated by Daniell that a man's body is capable of utilizing only one-fifth of the total energy supplied as heat. This is the average amount, from which individuals diverge greatly in one direction or the other.

In the same way in which, in mechanics, we have high-grade and low-grade machines, and also machines that can be changed from one grade to another by means of different gearings, we find that the human body works: It is not one machine, it is many machines in one, and, what we shall receive from it in the way of service depends upon our skill of treatment of it.

The fact that we are so constructed that we are able, at times, to extract and employ more or less energy from food is the explanation of those different levels of power at which we live, our vitality sometimes being so low that our productive ability is practically *nil*, while at other times we are so full of life and daring that nothing of achievement seems beyond us.

We know that the will may play a vital part in these transformations, and many an element of the mind attends either in hostility or in friendship the processes of digestion that cluster around mere food; so that, in the problem of diet in any given case, much may depend upon the spirit in which that food is taken and in what circumstances, of which latter there are many besides the physical, any one of which may overturn and reverse, if not actually annihilate, the purely physical.

Diet Founded Upon Experience

The basis of diet is, of course, the habit of the people, the custom. What has been tried and found wanting is thrown out, leaving that which has proved good to constitute our daily nutriment. In health, we find this diet sufficient as long as we observe temperance; always understanding that the rule is to be varied for each person according to his individual needs. For these divergencies, we also have rules that likewise are founded upon experience. Nevertheless, it is here that the difficulty of the personal equation assumes its most forbidding aspect in the eyes of the dietitian; for, he knows that, until he can determine, far more effectually than he can now, the individual power to extract and store potential, and, having stored it, to convert it with the least possible waste into the various active forms of energy manifested by the tissues, it will be useless for him to calculate the number of heat-units supplied by a given quantity of food. Nevertheless, there is an affirmative side of the subject of dietetics, even for the individual, and this I will now consider.

The Amount of Nutriment Needed by the Body

The lowest estimates of the food necessary for the human body put the proteid required at about 29 Grams. In order to supply the calories required for the various vital processes, and the loss of heat through evaporation and radiation, there must be supplied about 50 Grams of fat and 300 Grams of carbohydrate. Although every Gram of fat is, theoretically, worth somewhat more than 2 Grams of carbohydrate, there is so much loss, from natural lack of digestive power, when the limit of 100 Grams of fat is reached, that this ratio fails; and a ration of 150 Grams of fat is attended both with great waste and disturbance of the digestive and absorptive power in general, as well as the danger of intoxication from fatty acids and formation of acetone. Therefore, leaving out water, salines, iron, and so on, the organic requisites of the body must amount to not much less than 500 Grams of water-free, chemically pure proteid, fat, and carbohydrate; and this allows for reduced oxidation in disease, free use of external heat, and clothing to conserve the internal heat.

Now, the first point in combining a diet (taking for granted this knowledge of the average needs) is, to ascertain the previous feedings and habituations of the patient. There, manifestly, is something that he has been eating that either should be stopped or modified, although this does not always follow. As a rule, articles of diet that come in for prohibition are the semimedicinal ones, notably, alcoholic beverages, tea, coffee, cocoa, tobacco, spices, vinegar; foods that are too hot or too cold; those containing oxalates and other poisonous chemicals; those rich in purins;

tainted or fermenting or rancid foods; those containing an excess of innutritious substances, and those which, although good in themselves, would work against a proper metabolism in this particular case; besides various others.

Need of Written Dietetic Prescriptions

It is as necessary to follow the plan of giving written prescriptions in dietetics as it is in drug-therapy, bringing the formula into terms of proximate principles. From the practical standpoint, these "proximate" principles include water, sodium chloride, iron, iodine (as in thyroid extract), lecithin; the three organic nutrients—proteid, carbohydrate, fat, and gelatin, as a substitute fuel-food. In theory, and to some extent in practice, there should be added the consideration of calcium, magnesium, potassium, sulphates, purins, phosphates, and extractive substances generally, as well as more or less inevitable accompaniments in raw-food materials, the toxins and innutritious substances. Unless we are dealing with a lack to be made up, as in anemia, or a surplus to be taken care of, as in obesity; or, unless some particular metabolic disorder, such as diabetes, makes bad that which ordinarily is good, the dietetic prescription can be brought approximately to the following, whatever the character of the disease:

Water, 2500 mils, about 2000 mils, as such or at least in the form of some aqueous beverage;

Salt, 10 Grams;

Iron, 10 centigrams;

Proteid, 50 Grams or even as high as the earlier standard of about 100 Grams;

Carbohydrate, 300 Grams;

Fat, 50 Grams.

The two articles last mentioned are interchangeable, within limits, in the ratio of about 2 of fat to 1 of carbohydrate, while gelatin may be substituted for carbohydrate up to about 50 Grams in even proportion.

With reference to the vicarious function of fats and carbohydrates, there never is any need of eliminating such amounts of fat as are present in ordinary foods without being recognized as such, as, for example, the 1 percent of fat present in milk, the 2 percent in fish, the 6 percent in breakfast-foods, the 9 percent in crackers, and so on, percentages that make it possible to give as much as 50 Grams in a diet which the laity suppose to be fat-free. It is difficult to avoid giving as much as 10 Grams, while 30 to 50 Grams can readily be added by inunction, even though we are not certain of its being assimilated.

About all of the ordinary foods contain, as I have pointed out, the three organic ingredients in different forms and proportions, from which fact arises the difficulty of deciding upon the amount to administer of the respective foods; there being likely to be present in some of them too many or too few of some one or more of one or the other elements. Still, by restricting ourselves to a certain number of foodstuffs, we may make up the proportion in accordance with this *general law*:

When the number of independent equations equals the number of those unknown, the latter can be determined. When these equations are actually worked out, one, at least, of the unknowns is likely to become a negative quantity; for, while we can always determine algebraically the amounts of certain foods required, the practical results invariably indicate that there should be subtracted from the dietary such an amount of proteid, fat, and carbohydrate as is contained in a certain amount of one of the foods—and this, of course, is impossible. Therefore, in translating a primary prescription for proteid, carbohydrate, and fat into nature's approximate galenicals (the natural food-stuffs or even proprietary foods), we must proceed by rule-of-thumb. For example, let us take the proteid ration, which can not be replaced by carbohydrate or fat, and is the most definite one of the three.

If we use pure proteid or lean meat, or meat extracts or even milk, all of our raw material will be exhausted in administering the proper ration, without going further than a mere beginning on the requisite quantity of carbohydrate and fat together—although, in milk, the proportions of proteid and fat are so nearly equal that it is easy enough to furnish sufficient fat with the proteid. Thus, the difficulty is, to give nearly pure carbohydrate or mixtures of carbohydrate and fat for the remainder of the mixture; for, while theoretically this is easy, since we have olive-oil, butter, clear salt pork, and so on, as well as the various sugars and syrups, such as corn-starch, sago, tapioca, and so on, in practice, such a diet rarely proves tolerable. In the cereals, including breadstuffs, there is a nearly correct proportion

between proteid and carbohydrate, the ratio ranging between 1 : 4 and 1 : 7, and it is easy to add a little sugar or butter, and so on, to such a diet. There is, probably, no natural food-stuff that contains the proper proportions of all three of the organic ingredients necessary for an adult, and none that is tolerable that contains the required amount of fat and carbohydrate that can be added to a food disproportionately rich in proteid.

Meat Necessary

For ambulant patients and for most others, some meat is required, not only empirically, but, to supply the needful iron. In the vegetable foods, the iron-content is too small, as a rule, although many stems and leaves contain variable amounts. However, such iron-containing vegetables often are contraindicated, by reason of their lack of organic nutriment, as well as because of the difficulty of their digestion and liability to fermentation, holding, as they do, large proportions of cellulose; and, although iron may be added in the form of hemoglobin or some derivative of it or also in organic form, we can not determine how much of it is assimilated. Therefore, in practice, we usually find it difficult to administer enough meat-proteid to provide for iron, without increasing the ratio of iron in the dietary. There is not, and probably there can not be, a strictly scientific, mathematical method of determining the ration needed.

All Estimates Empiric

Such estimates as we have are based upon empiricism, the diet being gradually reduced or increased until nitrogen and weight equilibrium have been secured, at least approximately. Chittenden's method was, to find how little proteid could be given without entailing loss of tissue. He made no attempt to reduce the bulk or the content of fat and carbohydrate of the rest of the food. But, Voit and chemists generally have measured the consumption of food as regulated by a diet moderately restricted. The extreme lack of proteid, and, consequently, of tissue-oxidation secured by Chittenden's method seems to have decreased the output of heat and energy in the body, diminishing the call for fuel-foods. As yet it is a question which of the two rations is the more hygienic.

Food Dosage

The dosage of food, as of medicine, depends upon the size of the body, and, therefore, indirectly upon age, sex, and so on; so that, in the case of growing children, there is a disproportionate need of the depositable food ingredients (proteid and fat), as compared with carbohydrate, which can not be stored in quantities larger than about 250 Grams. Although there is scarcely an analogy between this and the dosage of drugs, there are, in their effects, idiosyncrasies similar in character.

As a given remedy may produce results much beyond, or much short of, those intended, so it may be with foods, an obese patient often retaining his fat on an abstemious regimen, while the diabetic, let him eat what and as much as he can, will grow thin. Of course, in all cases, the state of the patient's digestion and absorptive powers is a factor that must be closely taken into consideration in arranging his dietary.

In administering food, there is no very close analogy with the cumulative effects obtained by the administration of the alkaloids; for, the active organism is capable of ingesting and assimilating a large excess of the various organic foods without showing much evidence of damage done; although there may be the mechanical effects of a dangerous nature, such as intoxication caused by products of decomposition by microorganisms, or poisoning by strictly toxic substances (such as purins and oxalates), and toxins arising from bacterial or other chemical change before ingestion.

Food Dosage and Drug Dosage

Although it is true that we can not always secure the reaction between drugs and the tissues that the prescription is intended to produce, we can generally manage to give, in some way, the full dose desired, except in the case of drugs acting locally upon the alimentary canal; while, on the other hand, the dietitian often is unable to administer an adequate dose of food in any manner, especially in the most serious and acute cases; and this difficulty almost always obtains when, whatever the reason may be, food can be introduced neither by the mouth nor by a gastric or superior intestinal fistula. There never can be introduced more than a small part of the organic ration by way of the skin and subcutaneous tissues, and, although it often is mechanically possible to introduce a full ration into the lower bowel, we practically never can secure the retention,

for a satisfactory time, of more than half the ration, over a period of two or three weeks. Even when this half-ration is retained satisfactorily (which often it is not, owing to a faulty method), absorption always is deficient and assimilation more than unsatisfactory. Therefore, these and all other substitutes for feeding by mouth must be recognized as makeshifts from which not too much should be expected.

The difference between the food requirement of the healthy and active body and that of diseased persons is, of course, great, and experiment will, probably, never be able to adjust it with scientific accuracy, although it can do much. We know that, in certain stages of certain cases of diabetes, there takes place an enormous oxidation of proteid of food and tissues, which certainly is not purely compensatory of the failure of sugar oxidation, since, as a rule, it can be reduced nearly or quite to the normal by decreasing the ingestion of carbohydrate. But, we do not know just how far increase of oxidation by hyperpyrexia compensates for or exceeds the oxidative demands of exercise, nor what influence antipyretic measures, such as light covering in a cool room, bathing, sweating, and so on, exercise upon the calories required; neither do we know how far the demand for proteid is modified by the various febrile diseases. Probably the safe rule is, to give nearly the full ration for virtually every disease, whenever this can be done, excepting in conditions that render it possible to disregard nutrition altogether for the time being or where there is an obvious indication to reduce one nutriment in favor of another.

There are at command many simple sample dietaries and clinical methods of computing rations, and so on; however, probably the best way of insuring an adequate prescription of nutriment is, to consult tables that give the different food compositions and calculate from them the available organic ingredients and calories. Although there is no simple method of determining how much food is actually utilized, it may fairly be assumed that good assimilation has taken place if the feces are moderately consistent, not too much fermented or putrified, and show no curds, oil, and undigested masses.

[*To be continued.*]

Popular Education in Dietetic Economics

By A. L. BENEDICT, A. M., M. D., Buffalo, New York

IN view of the various propagandas of popular nature, it may be allowable to suggest that one more should be undertaken, especially since no apology has been offered for systematic instruction of the laity in regard to the early diagnosis and general principles of treatment of cancer, about which the medical profession still is in almost absolute ignorance. It is doubtful whether a special philanthropic organization should be formed for this purpose, only further to tax the benevolent and to maintain working-staffs and to increase the revenue of paper-manufacturers, printers, and the post-office. Still, if the medical profession and existing organizations for educational or philanthropic purposes take up the subject seriously and deal with it intermittently, as occasion may offer, much can be accomplished, perhaps all that need be desired; for, the people are eager for instruction, and the existing periodicals, from newspapers to professional journals, are ready to publish educational articles.

It is not intended in this article to go beyond some general principles and a tentative discussion of a general plan of popular education that would have to be elaborated by criticism and expert knowledge along various practical lines before it could be made workable.

Let us begin with the optimistic fact that this country of ours produces considerably more than the food required by its present population, and that production can be increased by methods at present practicable, so as to support at least five times its present population, merely by proper adjustment and putting known means into effect. An increase of population, especially if distributed so as to bring the density of parts at present scantily populated up toward the average, will increase the cost of

certain foods, especially of meats, while, if the population is increased by the growth of cities, transportation- and distribution-expenses will increase the cost of most commodities, especially those requiring prompt delivery and care in handling, as, for example, milk, fresh fruits, and vegetables.

Law of Supply and Demand Not Controlling

Not much can be expected from the law of supply and demand as ordinarily understood. On the contrary, it usually works in an opposite way. For example, an oversupply tends to reduce price, the consumer benefiting temporarily by getting bargains; production thereupon is discouraged and the price rebounds, often beyond its normal level. On the other hand, excess of demand raises the price, stimulates production, renders economy feasible in production and distribution, lessens losses from lack of sales, and, yet, through these same causes ultimately tends to reduce price permanently.

BUT, subject to possible economies in production, transportation, and so on, and the general business-principle, which even telephone-companies began to learn before the war—that it is better to sell a good deal of a commodity at a reasonable price than only a little at a fancy price—price will ultimately be controlled, not, by supply, but, by demand—the demand of the various forms of capital and labor involved in production and distribution—for, as great return as can be got from any other form of industry, by the particular person or firm concerned or by those considered as analogous with regard to earning-power. Perhaps it would be more accurate to say that each individual concerned wants a little more than he is worth or than his analog is getting.

In plain words, food will be priced upon the same general basis as plumbing, carpentry, gasolin distribution, brokerage or any other industry, with due reference to the earning-capacity of those concerned. As food is an urgent necessity and as the ultimate producer is rather better circumstanced than are most workers as to a home, a supply of longlasting necessities, and the ability to feed himself and his family, in other words, is assured to a large degree against actual want in anything that may be compared to a strike, the consumer is really more at the mercy of the factor of demand with respect to food than to any other commodity.

Of course, the food-consumer would like to see his own wages or salary or profits go up and those of the farmer and his hired man and of others engaged in food-production and distribution keep at the former standards. Just as much wheat or potatoes will grow on an acre as formerly, rather more; it requires no more acreage to produce a gallon of milk than formerly, possibly less; chickens can pick up their food and the farmer's children can pick up the eggs, they can be put into a basket of oats and sold at a cent apiece just as formerly. The coffee, tea, sugar, tin ware, calico, and so on, which the farmer had to buy cost no more than formerly, even at war-prices, and their normal price is considerably less. There really is no reason why food should go up in price, except for the wishes and demands of the man that produces it. For that matter, anyone that is solely a consumer of food can go back to the farm and have the major part of his sustenance at a cost too small to be counted at all, if he chooses. Why doesn't he?

The Middleman Is Needed

The elimination of the middleman has been suggested as a panacea. The technical objections to this can be better treated by more expert economists; still, some practical illustrations of what would result may here be suggested. The next time, when some cog or chain or other intermediate part of your automobile gives trouble, take it out. After you have had it fixed and put back again, drive out into the country and buy a bushel of potatoes or a dozen of eggs or a pound of butter at a farm-house—if there is one accessible and the owner wants to be bothered with your small purchase. Then go to the market and see how much you have saved or lost. Or, in a more general way, try any of the producer-to-family schemes, and, with due regard to quality, calculate how much of the middleman's profit you get. One minor although extremely important practical point is, that the producer—farmer or otherwise—reads the papers and knows just what the market-price chances to be. And, he insists on getting it, too.

There are, undoubtedly, extortionate and dishonest practices by middlemen. So there are on the part of retailers, transporters, producers, and consumers. All these should be dealt with rigidly and im-

partially, as all tend to increase the cost of living.

Fairness to All Required

We are just beginning to recognize the fact that, while *"caveat emptor"* is a high-sounding and ancient injunction, it does not represent a principle either of ethics, law or economics. Nevertheless, we should not go to the opposite extreme and disregard the rights of the seller. The rights of everybody should be equally and equitably enforced. They must either be enforced by existing machinery of government, extended as necessary, or a government within a government, designed to deal informally with economic questions, must be established. It is questionable whether the reluctance to extend the domain of government so as to insure to each individual adequate return for his labor and to insure his fellows against his getting an excessive return, should be carried to the extent either of maintaining existing economic evils or of establishing a secondary union of people, to secure their economic rights by some form af economic coercion.

It should be recognized, however, that experiments with consumers' leagues for the most part have failed and that similar combinations of producers, to eliminate the middleman and retailer have, if successful, not tended to the welfare of the consumer —oranges, for example.

An even broader view of the economic problem involved is necessary. The great bulk of the business of the country is, properly, transacted with money, and, while the vital necessity of food renders this conspicuous, it makes no difference, up to the point when extreme and exceptional poverty excludes every other consideration, as to the food, whether too high a price is paid for food or for anything else that virtually is necessary. If, for example, one uses 500 gallons of gasolin a year, and he pays, unnecessarily, 10 cents a gallon more than he did the year before, that $50 difference could be applied on food just as well as a saving of that amount on food, itself; and so on for telephones, telegrams, railroad-fares, shoes, taxes, and everything else. The farmer or poultry-raiser may be getting too much for his labor, and, on the other hand, it is possible that the plumber, electrician, and automobile-mechanic should not charge more per hour than does the carpenter and the painter. At any rate, a saving, by the ultimate consumer, on any kind of labor will buy him more food, just as well as if the food-producer's or food-dealer's charges were reduced.

Needful Study of Food-Economics

All are consumers, not only of food, but, of various other services and commodities, and all ought to be, for the greater part of their lives, producers of some service or commodity of a useful nature.

The problem of food-economics can not be satisfactorily solved on the theory, often implicitly assumed, that it can be separated from the general economics of production and distribution, still less on the assumption that food can be produced and distributed by workers at a less rate than their corresponding degrees of skill and industry are worth in other activities that these workers may actually or potentially be competent to perform. The principle should be recognized that the same degree of skill and industry should have the same pay in any line of work, that an abnormally high pay for any kind of work will tend—quite rapidly in these days—to compensatory increases of wages in similar industries, and that, after or even before, a general increase in wages has been compensated by withdrawal of wealth from amassed capital or abnormally highly paid positions, the result will be a diminished purchasing-power of money, so that the increase in wages is fictitious. This means, not merely that the average man must think in higher monetary terms, receiving and expending more than formerly, although breaking even so far as actual standards of living are concerned, but, that business and employment will be hampered by a relative reduction of the circulating medium of exchange.

Employment will be reduced, not merely because the prospective employer still is thinking in previously established values and will postpone work until it is absolutely necessary, but, because it is actually difficult to obtain sufficient money or credit, since the amount of money increases but slowly. Unfortunately, while the average laborer is quite inclined to make the pessimistic statement that he is no better off at present than at his former wages, because of the higher cost of living—meaning that the other fellow also is getting higher wages—he can see no other remedy than a further increase for himself, so that

we are, in an economical sense, chasing the devil around a stump.

While food can not be separated from more general considerations of economics, it does, as a matter of administrative detail, deserve special attention; indeed, almost every kind of food should be especially and expertly considered with reference to a possible reduction of price or substitution of a cheaper food of equal value.

Campaign on Food-Economics Suggested

Much of the complaint of the high cost of food could be removed by a popular education in food-economics. For practical purposes, a campaign of education should be conducted mainly along three lines; namely:

1. Every consumer of food should know the minimum standard rate (not the occasional bargain-price made for a "come-along" or owing to a temporary excess of supply over demand) at which a given commodity has been sold in the past or is being sold in a comparable community or one that may be made comparable by scientific attention to methods of transportation and distribution. This will give him an idea of the price-goal toward which he may, by constant and united demand, strive. On the other hand, both as a matter of justice and to save him unavailing effort, he should understand whatever real obstacles there exist to the restoring of former prices. Thus, it is obvious, for example, that milk, elaborately protected against infection, bottled instead of vended "loose", produced by regular industry involving large capital and skilled and careful labor, transported to greater average distances, and distributed on an accurate time-schedule, can not recede to the price of carelessly handled milk sold as a by-product from a suburban farm. The same argument applies to many other foods.

But, even this argument should not be granted without investigation. Many foods can be enormously increased in yield per acre by fertilizing and employing skilled labor, without correspondingly increasing the costs. Potatoes, for example, by intensive methods, may be increased by from 75 to 300 bushels per acre. And, without reference to acreage, the same general principles of efficiency apply to food production as they do to manufactures.

2. The consumer should also know the current possible low price in his own community. This information has recently been published and the practice should be continued, with explanatory notes including the general principles of the first consideration.

3. The average consumer is very ignorant of comparative food values, both in the commercial and the physiologic sense. As mentioned in a previous article, much of the most expensive land and labor is devoted to the production of coarse vegetables that the average person regards as necessary high-food-value articles, but, which are of almost no value except as relishes and stimulants to peristalsis. Not only is he paying high prices for virtually nothing, in the nutritive sense, but, his large demand maintains high prices, while, in many instances, there is actual deficiency of nutrition, because of this ignorance.

Failure to allow for gross waste results in a very general buying by the poorer class of meats, at extravagant prices, when the ultimate nutritive value is considered. Barring a few fancy cuts, it is ordinarily true that the kinds of meat sold at the highest prices per pound are the most economical. During the meat-strike, a few years ago, enormous quantities of small fish were consumed, at a cost per unit of nutrient considerably higher than that for mammalian meat, against which the strike was conducted, not to mention the qualitative nutritive superiority of the latter. In many instances, the people are actually *mis*-instructed. One can hardly ride in a streetcar without learning of the high food-value and economy of various cereals. No actual misstatement is offered; still, the people do not realize that all that is said of this or that proprietary preparation applies with equal force to standard cereals in bulk and to bread, and that the former cost from two to four times as much as the latter for equivalent food-values. An important minor detail requiring careful investigation is, the price of crackers. These consist of unleavened bread, they do not involve much waste because of rapid depreciation and should be economic in every sense. It may be that the explanations as to the cost of manufacture are correct; yet, they should not be accepted without careful examination by competent, disinterested authority.

Medicine Socialized

By CHARLES ELTON BLANCHARD, M. D., Youngstown, Ohio

[*Concluded from April issue, page 275.*]

Advantages Promised by His Plan

NOW let us offer a few specific observations.

A publicly paid and nationally or state-organized medical service would tend to restore and keep the needed confidence of the people. The sick and injured could, and would, place themselves in the doctor's care, knowing that no possible motive can enter into the relationship, except the study of what is best to do for the one needing help.

There would be no depressing worry about the grievous expense in commanding the very best of skill, as now is the case. It would place the concerted skill of the entire medical fraternity of each center, and, if necessary, that of the whole nation or world, at the command of the patient or his attendants. There would be no fear or quibbling about counsel. Now, many times a physician hesitates to call for aid, because he may fear that his reputation will suffer or his patrons lured from him. If he is not altogether sure of his diagnosis and treatment, he fears that another called in counsel will repudiate him. Our ethical code is very strict in matters of counsel, still, every doctor can, if he will, tell you how many times he has been worsted by a brother physician that he or the family called to his aid. If the doctor called is friendly, he will say: "Yes, yes, the Doctor here has done exactly the right thing. No mortal man could have done more." Many times, he knows that he is lying in order to uphold his fellow. He may need like help, himself, some time.

If, on the other hand, the doctor called in consultation is honest and none too friendly, he may, out of regard for his code of ethics, let his colleague down as easily as possible; still, the decided changes in treatment and in methods employed, especially if the outcome is a speedy recovery, can not fail to result in an economic injury for the family-physician, and it usually cuts that family and their relatives and associates from his list.

It yet remains to be shown whether the disease was not just at the turning-point, of, say, pneumonia or typhoid fever, and that, had no counsel been called, the same good recovery would have been the outcome.

Criticism Answered

Criticize my position as you will, find all the difficulties possible for the introduction and conducting of my plan; still, every step in our national and our race evolution brings us nearer to this change in medical service. Even now, it is being industrialized and commercialized. It should be made an out and out socialized work.

The smug highbrows prospering under the present plan will say that I am just another Don Quixote fighting windmills or, that I am setting up a thing of straw, to throw brickbats at; that I am one of the outs and want to get in. My answer is: Never mind *me*. I am nearing the end of my medical career. There is not a personally selfish word in all that I am saying. We have now won the victory over John Barleycorn, we are about to win for woman her political rights, and our next step should be, to destroy the evil, graft, and inefficiency of private medical practice. I would willingly leave it to a referendum vote, when the public has been one-half as well educated on the subjct as it has been on the liquor-and woman-suffrage questions.

It has been said that the doctor is the luckiest of all business men, because "the world publishes all his successes and the earth covers up his mistakes!" Now, this was supposed to be a good joke, and you will find running all through the world's literature this tendency to belittle the physician's dignity. Lord Byron said: "Physicians mend or end us; but, though in health we sneer, when sick, we call them to attend us, without the least propensity to jeer." Pope, with more careful thought, wrote:

> "A wise physician, skilled our ills to heal,
> Is more than armies to the public weal."

Nevertheless, our good old Ben Franklin could not resist the temptation to say, "God or nature heals, and the doctor takes the fee."

Now, my friends, let us have a good dis-

cussion, or a good cussin', just as you may choose.

DISCUSSION

QUESTION: Is not the present system of municipal, state and national health-service developing a system of socialized medicine as fast as public opinion will accept?

DR. BLANCHARD: Most of our health-officials are competent men, doing the very best they can with the means and authority placed in their hands. The trouble with our kind of democracy is, that we must do everything by a patchwork method. What knowledge of medical things has the average politician, upon whose vote in legislative bodies depends the success of this service? We should have a democracy that draws to the lawmaking power the experts in every branch of human endeavor, to guide the reform-laws that apply to each of these departments of life, doctors to direct health-affairs, lawyers directing the machine of jurisprudence, engineers and industrial experts for matters of transportation and factory, labor-leaders for things that touch the life of workers, and farmers for the agricultural interests. The growth of the Nonpartisan League, for example, is an expression of protest against political democracy, and the farmers are demanding an industrial democracy wherein the representatives sent to lawmaking bodies will really represent their constituents.

Now, in health-service, but few public health servants are publicly paid, as most doctors in such service still must make a living in private practice. Everything that is done is antagonistic to the economic interests of doctors, as a class of workers. We need the vision to make a radical change in the entire system. It would be no more radical, however, than many or all of the things the League of Nations is going to do; it would not be as radical as the recent settlement of the liquor-question. The present system has been patched up long enough.

QUESTION: What would your proposed system of medical service do about birth-control, marriage, divorce, and all that vital field growing out of nature's urge for procreation?

DR. BLANCHARD: Medicine, as a progressive science, is fairly well rationalized. The problems of the sex-relation are social, economic, and health-questions, and must be separated from religious or church connection and authority. The present marriage-and divorce-system is a disgrace to our present civilization, faulty even as that civilization is. One out of every five marriages ends in divorce, and physicians can tell you that three more of these five would end in divorce, if there were no restraints, such as religious scruples, property interests or the welfare of the children. Physicians can tell you that not one divorce in a hundred is granted for the real cause that seemed to make it desirable; that cause being, sexual discontent and incompatibility, coupled with economic dependence on the part of the woman.

A real health-service would change marriage-laws so that the unfit would eventually be eliminated and that applied eugenics would direct the relation, to the end that children might be well born, well cared for, and trained for good citizenship. Now, children come into the world haphazard. We expect that like will attract like; that the luckily good specimens will mate with equaly good types, and we leave the scrubs to mate with the scrubs, and to produce scrubs. We breed cattle and hogs with great care to the principles of animal eugenics; but, the human animal still is running at large, the victim of lust-perversion, venereal disease, and hereditary taint. We patiently build prisons and asylums for the results of this system of savagery; we employ psychologists to classify the defectives and we struggle to correct their heredity by special schools and methods of treatment, with no thought to removing the cause.

Public medical service would direct its attention to the cause, and presently there would be no need for the present palliative institutions. Whether you accept the theory of Malthus or not, you can easily realize how a time might come when we could not afford to waste food and room upon the unfit. Indeed, it seems, as I have said, as though the ghost of Malthus were after us, right now.

QUESTION: "Would people consent to the authority of such a health-service, that seemed to meddle with their most private and personal concerns?"

DR. BLANCHARD: It is fortunate—or unfortunate—that the race does not progress in its evolutionary development in a straight line. Some are away in the advance, while others lag behind; and the zig-zag of this line explains many of the human convulsions, such as wars, revolutions, and social upheavals. In even a political democracy, we have, fortunately, some social authority. We can prevent the sale of lottery-tickets, counterfeiting of money, and many of our legal regulations constitute a direct interference with what some like to call "personal liberty." The good of the whole, and which Maeterlinck calls "the spirit of the hive," must be the final arbiter. Before this final judge, all health and social things must stand in judgment. At first, force, no doubt, would have to be employed. All that makes the period of transition. At last, results would so fully justify the rightness and the justice of these methods, that not a voice would be raised in protest. The time has come to aply this social force to health-concerns. To eliminate the quackery, the nostrum-makers, the charlatans, the pseudo cults, and the commercially spurious efforts for motives of profit.

QUESTION: "How would such a health-service manage the question of prostitution and venereal disease?

DR. BLANCHARD: Our discussion has already drawn out to such a length that I

can not, at this time, go into these important subjects. Briefly, the coming of women into full political rights will at once demand anent prostitution the same prohibition as had been demanded anent the liquor-traffic. It will be prohibited, that is all. It will not be managed or palliated. There is no place in our social life for commercialized sex-traffic.

The matter of venereal disease is a biologic battle with certain forms of infection. Aside from methods of prevention and isolation, we must employ drastic quarantine. The feeble efforts of our present health-authorities will seem very mild when compared with what will be required to eradicate the pest of venereal disease from the near-future generations; but, this evil can be, and will be, eliminated from our health-concerns. Difficult as many details will be and troublesome as the cure is now for venereal diseases, never fear that a real socialized medical service will not solve them all, just as we have solved equally difficult things already. Nearly every success that we have accomplished has been the work of publicly paid workers. I am pleading for a full chance for medicine to do its best.

After Thirty Years—XIII

Notes and Reflections on Life and Work

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

[*Continued from April issue, page* 260]

Criticism

AN unexpected result of this series of notes and reflections has been the large number of letters that have come to me from the readers of CLINICAL MEDICINE. And they have not all been complimentary. There have been both "boosts" and "knocks". The former are helpful, because we all like appreciation and encouragement. The latter are useful, too—they tend to keep one humble. I agree with David Harum, that a certain number of fleas are good for a dog. The criticisms have mostly been constructive and sincere. Even the few that have been abusive have their value—they afford material for the study of human nature. Minds of a certain type seem to think that an argument is more convincing if it is well seasoned with personalities and abuse.

These letters from readers afford me more pleasure than does the writing of the articles itself. I look forward to them each month with pleasant anticipation. I am learning from them. Sometimes they present a new point of view. Sometimes they inquire after further information. Often they prove to me that I have failed to express some thought clearly.

Some philosopher has said that our enemies are more likely to tell us the truth about ourselves than are our friends and that even the harshest criticism contains at least a grain of truth, however deeply it may be buried under a mass of abuse. Possibly this may not always be true; still, as a general proposition, it contains much truth; and a man must, indeed, be wrapped in self-conceit if he does not frankly ask himself regarding every criticism, "Am I guilty or not guilty?" It gives me pleasure to be able to say that a very large majority of these letters express either appreciation, inquiry, suggestion or friendly criticism. I am always glad to learn that a suggestion of mine has been helpful to some reader, and the pleasure is supplemented by the thought that I have an unseen audience (if I may use that word) who are ready to be helpful in turn.

My reference, in the March issue, to the use of correct English has brought me a number of letters, most of which express approval, while a few are frankly critical of my position in regard to the use of "none", "prone", and "lay", especially the first one.

Craving the editor's indulgence, I will try to make my position clear. I am simply insisting that "none" is both singular and plural, and that, when it is plainly plural, it should have a plural verb. It is a very common thing to find in the newspapers such a sentence as this: "The passengers were badly bruised, but none was killed" Now, in my ear, that jars as harshly upon my grammatical nerve as to hear someone say: "They was good boys". It is an accepted rule of grammar, that a pronoun should agree with its antecedent in gender, person, and number. In the sentence quoted above, "passengers" is the

antecedent of "none", and, being plural, makes "none" plural. These writers assume that "none" is always singular; however, one needs only to examine our great authors, from Shakespeare down to the present, to find that they use "none" in the plural far more frequently than in the singular. Here are a few quotations taken at random:

None of these things move me.—St. Paul. (King James' version of the Bible.)

None are for me.—Shakespeare.

None deny there is a God.—Bacon.

None are seen to do it.—Milton.

None are so desolate.—Byron.

None think the great unhappy but the great.—Young.

'Tis with our judgment as our watches, none go just alike, yet, each believes his own.—Pope.

Few die and none resign.—Thomas Jefferson.

None linger now upon the plain save those who will not fight again.—Walter Scott.

I am monarch of all I survey, my right there is none to dispute.—Cowper.

It will be observed that of these ten quotations only the last uses "none" in the singular. I had to search a long time for it, while the plural use is as plentiful as are blackberries in August.

Some modern writers claim that "none" is identical with "no one". But, this is an error, as may readily be seen by trying to substitute "no one" for "none" in the quotations cited. The one from Cowper is the only one that would bear the substitution.

It is instructive to study such questions and answers as the following: "Did you bring my letters from the post-office?" "No, there were none." "Did you order coal?" "No there was none to be had." In the first answer, "none" means "no letters" (plural). In the second, "none" means "no coal" (singular). Instead of "none" being a mere combination of "no one", it is the old Saxon "nan", which was used both in the singular and the plural.

As to "prone", I need only to remind the reader that the word is derived from the Latin *pro*, forward, and means "lying face downward". Its antonym "supine", of course, means "lying face upward", and is the word that careless writers mean when they say, "prone on his back"—which is a contradiction in terms. There is one exception. Some very good writers use the word "prone" in the sense of "prostrate", when speaking of an inanimate object having no face, such as a tree or a column.

To write "lay" when "lie" is meant, is simply crass ignorance, as, "beyond the hill lays the town". Here is a memory-help that I learned at school in distinguishing the transitive verbs "lay", "raise", and "set" from the intransitive "lie", "rise" and "sit": "We *lay* a thing down, *raise* it up, and *set* it in its place. We *lie* abed when we are sick, but, *rise* as soon as we are able to *sit* up."

A good deal of confusion exists in the minds of many people as to what a rule of grammar really is. They imagine that it is the fiat of a grammarian, who makes the rules just as congress makes a law. The exact opposite is true. The grammarian does not make the rules, he discovers them. Language is a growth. It grows according to certain laws or rules that are a part of its very nature. The grammarian simply discovers those rules and expresses them. The standard of right and wrong in language is usage—the usage of those writers that have written so well that their work endures throughout all generations. The English language is the richest and most flexible instrument of expression that the world has developed, and it is well worth while to try to preserve its purity by resisting the tendency toward corruption, a tendency that confronts every language.

Faith in Medicine

By the above title, I do not mean, confidence in medicine as a science, neither do I mean, belief in the efficacy of drugs, nor, yet, the exercise of religious faith in conjunction with other remedial agencies. All three of these are good to a certain extent, and each could constitute a proper subject of discussion. The kind of faith that I have in mind as the subject of this discourse is, that blind belief in unproven theories and alleged facts that is such an obstacle to progress. I am attacking a bad habit of the human mind, the habit of believing without proof, of believing where we ought to suspend judgment and wait for further information.

Faith has no place in science. I am pleading for an intelligent skepticism. The skeptic has, for a long time, had a bad name; yet, the fact remains that he has

done more for the advancement of truth (which means the advancement of human welfare) than has the too ready believer.

No greater service can be done to the cause of truth than to apply every possible test to an alleged face. A new proposition may look so plausible, so promising, so attractive that we uncautiously believe and adopt it, instead of suspending judgment, and mercilessly applying to it every test necessary to determine its truth or untruth. It is this tendency to blind belief, the setting of dogma above evidence that is responsible for the socalled "schools" of medicine, the numerous "pathies" and "isms", besides for the rich harvest that the quacks gather from a gullible public. Any proposition the truth of which can not be demonstrated so clearly as to be convincing to the great majority of scientific men should be looked upon with a certain degree of suspicion.

This habit of believing without having evidence is borrowed from religion. I am not criticizing religion nor am I engaging in any religious controversy; I make this reference merely to illustrate my point. It is a generally conceded fact that religious beliefs depend upon faith in matters that are outside the domain of scientific proof. History shows that many times the world has been deluged in blood, because one set of individuals believed one thing and another set believed the opposite. The race has been so schooled in the habit of believing what they are told in religion that it seems perfectly natural to people to do likewise in politics and in medicine.

A curious fact about the matter is, that the more unreasonable a proposition is, the more strongly it appeals to a certain class of minds. For example, of all the pseudosciences that have sprung up around the problem of human suffering, the one that has captured the largest number of supposedly intelligent people is precisely the one that makes the most extravagant demands upon the credulity of its votaries, asking them to believe that pain is a delusion and that sickness is merely error. One would suppose that simply to state such a proposition would be enough to have it laughed out of court. But, no! the love of the marvelous has such a hold upon the human imagination that, when it is brought into conflict with reason, the latter is beaten before the battle begins. Argument is ignored; evidence is not even considered. The bigot "believes" a thing—and that is enough for him; the matter is settled.

When we attempt to reason with this state of mind, soon we are brought to realize how thin is the veneer that we call civilization and how little the thing that we call education has changed the mental processes of mankind since our ancestors dwelt in caves and worshipped idols of stone and clay.

Only a minority of the race, even in civilized lands, form their judgments upon evidence and reason: the great majority adopt a faith—it is so much easier. To weigh evidence and reason about it, is too much trouble; to have a faith is so comfortable to human indolence.

It is unfortunate that the word "faith" has been applied to two very different things; for, it has resulted in confusion in the minds of the masses. Let me make my meaning clear by an illustration. A man believes that, in the days of Noah, a flood covered the whole earth. That is one kind of faith. Another man believes that "righteousness exalteth a nation". That is another kind of faith. The former is comparatively an unimportant belief, while the latter is exceedingly important, because it has an influence upon conduct and moral character. Now, we constantly find people confusing the two and concluding that the latter, which ought to be called the appreciation of spiritual and moral truth or breadth of vision, is no more important than the former.

So in medicine and in politics, we find people trying to settle their problems of faith. They believe in some particular school of medicine, and, once having fixed their faith, they consider the question closed. They can not see that scientific problems should be decided by evidence, and not by faith. Most people believe in their favorite political party, because they were brought up in it. They seldom are influenced in the matter by facts and reason. What their party teaches they feel bound to accept upon faith. This is the greatest obstacle in the way of political progress.

In medicine, this tendency to put faith above facts is not limited to the laity nor to the irregulars. Observe how often we see new theories or methods of treatment exploited by men that are making this a means of gaining a little fame or, shall I say, notoriety. These fads come, make a

brief sensation, and are relegated to the junk-pile. It would be interesting to make a list of all the wonderful (?) things that have been relegated to the scrap heap within twenty-five years. Of course, in naming each of them, we should be stepping upon somebody's toes, so, I will let each reader compile this list from his own memory.

And, what is the remedy? How can we bring about a better state of things? Mainly, by the slow process of evolution by education. We all can do our little share in bringing about a better conception of what education really means. The world needs continually to be reminded that the word "education" is derived from a root meaning "I lead out", and, not from one meaning "I stuff in". When it is universally understood that the object of education is, to bring out and train our powers, then we may hope that faith will no longer take the place of reason and research.

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[*To be continued.*]

Local and Combined Anesthesia for Cesarean Section

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SPEAKING before the thirty-first annual meeting of the America Association of Obstetricians and Gynecologists, William Mortimer Brown, of Rochester, New York, (*Amer. Jour. Obstet.*, vol. lxxviii, No. 6, 1918), said:

"At times, there arises in a given case a combination of complications that leaves us but small choice of procedure in order to achieve a successful result. That we have been slow to recognize this situation, is borne into my mind when I recall how, only a few years ago, I watched one of our foremost teachers in obstetrics do a cesarean section in the case of a woman with a contracted pelvis, and then, a few days later, saw him put a patient, who had a dilated heart, on the same table and attempt a manual dilatation under a general anesthetic. The woman died, undelivered, after twenty-minutes' manipulation. We are in a position now to say that, in certain types of cases, abdominal delivery, under use of a *local anesthetic*, offers the safest means of terminating pregnancy and that this method is entitled to a definite and permanent place in our records of progress."

Brown considers that, in a general way, the patients in whom this procedure is indicated are those in whom, by reason of some intercurrent disease, a general anesthetic is contraindicated and for whom a difficult labor is unsafe. Such cases are:

1. Patients with advanced cardiac disease, in whom there is actual or impending muscular relaxation. These cases, if there is actual or fair compensation, will often go, under careful hygiene, to the final weeks of pregnancy; but, these subjects are in no condition to undergo even the shortest labor, nor is the relaxation of a general anesthetic safe. The child is viable and active; the mother, if relieved of the strain of her pregnancy, has a prospect of fair health for some time. Such patients are entitled to abdominal delivery under local anesthesia.

2. Patients suffering from severe toxemia, hepatic and renal insufficiency, and impending eclampsia. For some time, abdominal hysterotomy has been growing in favor among many obstetricians, and Brown, with no intention of discussing the merits or demerits of this operation for the relief of profound toxemia, considers that there come to hand occasional cases in which this form of delivery is positively indicated, and that, for the same reasons, local instead of general anesthesia should be preferred.

3. A third complication that may render abdominal delivery under local anesthesia desirable is, according to Brown, pulmonary tuberculosis.

J. Clarence Webster, of Chicago, (*Amer. Jour. Surg.: Anest. Sup.*, Oct., 1918) and H. H. Trout, of Roanoke, Virginia (*Surg.*,

*This is one of a series of editorial résumés of the possibilities of procaine-anesthesia in surgery and the specialties, as collated from the latest current literature upon the subject.

Gynecol. & Obstetr., July, 1918), also have paid especial attention to the development of local and combined anesthesia for cesarean section. During nineteen years of clinical service in the Presbyterian Hospital, Webster has given special attention to the use of anesthetics in pelvic and abdominal surgery and obstetrics. He always deplored the indiscriminate use of ether and was among the first to use Schleich's infiltration-method for minor and major surgery in the aged, and in renal, pulmonary, and cardiac diseases, marked anemia, and chronic wasting diseases and sepsis. Since then, he has abandoned Schleich's solution in favor of procaine and, since 1909, has performed all his cesarean sections, under local anesthesia, whenever general anesthesia seemed contraindicated; and more recently has done many cesarean sections under combined procaine local anesthesia and nitrous-oxide and oxygen narcosis. In 1913, Webster advocated the use of methylene-blue, to color the infiltrating solution and to delimit, for the operator's guidance, the extent of the area infiltrated. In this way, the operator need not insert knife, scissors or needles into unobtunded tissues.

Sensitiveness of the Abdomen and Its Contents

Webster, Trout, and Brown have verified the researches of the late Lennander, of Upsala, regarding the sensitiveness of the abdomen and its contents. Curious to note, Lennander does not mention the sensibility of the uterus, either in the pregnant or the nonpregnant condition, further than to say:

"All organs receiving their nerve supply only from the sympathetic nerve and from the vagus, below the branching off of the recurrent nerve, have no sensation. According to my observation, therefore, the abdominal and pelvic viscera are devoid of nerves to convey the sense of pain, pressure, heat or cold."

Webster has found the abdominal wall sensitive in its entire extent. Also the parietal peritoneum is everywhere particularly sensitive, whether it be pulled, sutured, cut or pinched. Separation of adhesions between any structure and the parietes causes pain, unless the adhesions are very slight. The visceral peritoneum is, in general, insensitive. Separation of adhesions between viscera or between them and new-growths causes no pain, unless traction is made upon ligaments or mesenteries. Ligation, division or cauterization of the omentum is not noticed by the patient. If it is forcibly pulled down, distress is caused. Similarly, the intestines are insensitive, but, if they are handled so that their mesenteries are stretched, pain is caused. Removal of the vermiform appendix causes no distress, except when adhesions between it and the parietes are separated or its mesentery is stretched. Compression, ligation or division of the broad ligament causes pain.

Incision, suturing or cauterization of the uterus as a rule is not noticed, however, the patient complains of nausea and distress when too much traction is exerted and the ligaments of the uterus are stretched. This assertion is supported by the fact that Trout found, in his eighteen cases under purely local anesthesia, that the most painful part of the performance of cesarean section was, the lifting of the uterus out of the abdominal cavity.

Webster has further observed that, when the adnexa are adherent to the pelvic wall, separation causes distress, while gentle manipulation ordinarily is unnoticed. When an ovary is squeezed, cut or sutured, distress is felt. Separation of the bladder from the uterus produces little or no discomfort; but, division of the wall of the vagina in a hysterectomy causes pain. Sponging of the visceral peritoneum is painless, whereas the same procedure, applied to the parietal, causes distress and pain, varying with the degree of force employed. The pain caused by the removal of a gauze pack from the abdomen results, probably, either from irritation of the parietal peritoneum or from traction upon some part of the mesentery. Slow injection of hot physiologic salt solution (105° to 108° F.) is not distressful, unless the abdomen is unduly distended.

Pain felt within the abdominal cavity, whether in disease or during operation, has to do with the parts innervated by the intercostal lumbar, and sacral nerves.

The Anesthetic and Operative Technic

Trout precedes operation with a hypodermic injection of morphine (⅛ grain) and uses a 0.5- or 1-percent solution of procaine, preferably without adrenalin. Trout has injected up to 250 mils (Cc.) of this solution without resulting untoward effects. The skin is infiltrated in the usual manner, by forming one wheal after another. Web-

ster obviates the initial distress of the needle-prick by first producing nitrous-oxide-and-oxygen analgesia. He advises this combination also because it generally is advisable to make a large incision in the abdominal wall, in order to expose the separated recti-abdominis muscles, for the purpose of making a satisfactory closure of the wall at the end of the operation. Trout considers the preferable incision one, the middle of which is at the umbilicus and the upper end at the level of the fundus of the pregnant uterus.

The fascia is infiltrated in exactly the same manner as the skin. The muscles generally are thin and their fibers part without trouble. A small opening then is made in the peritoneum and the index-finger of the left hand inserted, and the peritoneum is infiltrated, keeping the finger on the inside as a guide for the needle, while injecting this very thin membrane. This part of the procedure is easier than is commonly supposed; however, Webster insists that the thorough infiltration of the parietal peritoneum at the site of incision must be accomplished.

A self-retaining retractor is then placed in the abdominal incision, which is stretched as widely as may be necessary. In this way, the anterior wall of the uterus is exposed. If the patient is nervous and strains at all, so as to force omentum or intestines down from above, Webster advises the introduction of a long strip of gauze, soaked in warm salt-solution, between the abdominal wall and the upper part of the uterus, after the latter has been carefully lifted out of the abdominal cavity. It is important, as Trout suggests, to have the upper part of the abdominal incision so placed as to be slightly higher than the fundus of the pregnant uterus, as in this way that organ can be allowed to ride out of the peritoneal cavity, thus obviating the only distressing part of the operation. If the incision is not made too long, the abdominal wall will hug the uterus and serve to retain the omentum and intestines without the need of using a gauze pack or sponges.

Next, Webster advocates the injection of two ampulesful of pituitrin into the wall of the uterus. When blanching and hardening of the wall begins to be well established, a vertical incision of about 5 inches in length is made into the upper part of the anterior uterine wall, as near the midline as possible. It is not necessary to infiltrate the uterine wall with the procaine-solution, since incision of the body of the uterus causes no pain. The incision is carried down to the amnion, which immediately bulges through the opening. At this stage of the operation, Brown fastens the uterine wound-edge to the abdominal incision with four or five ordinary towel-clamps, not only in order to fix the uterus in position, but, also, to prevent the blood and amniotic fluid from entering the peritoneal cavity. In addition, an assistant may be instructed to press the abdominal wall against the uterus and to maintain a steady pressure during the emptying of the organ.

As a matter of precaution and to save time, after incision of the uterus, Trout places a line of interlocking sutures of chromic catgut on each side of the fundus of the uterus. These lines are about an inch apart and placed in the long axis of the uterus, thus controlling all bleeding. These sutures go through the whole muscular wall, and the assistant on either side makes traction upon each side on the entire line, thus lifting the uterus up, steadying it, and controlling hemorrhage. The use of pituitrin obviates the necessity for making these interlocking sutures.

Now the amion is opened, a hand is introduced, to grasp the breech of the fetus, and the latter is extracted and given to an assistant, after division of the cord. The extraction of the fetus sometimes causes the mother distress, when undue force has to be exercised in turning or delivering. In such instances, the concomitant resort to nitrous-oxide-and-oxygen anesthesia gives relief. The uterus now rapidly retracts and frequently the placenta is partly expelled through the incision; the hand is reintroduced, to peel it and the membranes from the greatly reduced area of the uterine wall.

If the cervix be undilated, as many times occurs in primipares, it may be opened by means of dilators passed through the uterine incision, thereby providing drainage from the uterus.

Closing Up the Incisions

The intestines should now be carefully covered with saline packs and the uterine incision closed. Trout approximates the incision by tying the interlocking sutures across the line of the incision, supplemented by a continuous suture of plain catgut, approximating the peritoneal surfaces, so as to leave no spots for future adhesions.

Webster apposes the broad surfaces of the incision by means of several layers of continuous iodized catgut. Through-and-through strong, braided-silk sutures, made noncapillary by rubber infiltration, are passed through the skin, anterior sheath-layers and recti muscles. The anterior sheath-layers are approximated with iodized catgut, the skin edges brought together with fine silk or linen, and the large silk splint-suture tied last.

As a rule, Webster has found that the initial procaine infiltration of the abdominal wall endures long enough to permit the suturing of the incision, without causing pain or further need of obtunding. If there is anxiety or any slight distress at this stage of the operation, Webster induces nitrous-oxide-and-oxygen analgesia, so as to quiet the patient.

Effects of Local and Combined Anesthesia

In the majority of cases, babies, delivered by cesarean section under local or combined anesthesia, breathe very soon after extraction, except when the mother is eclamptic, toxemic or septic, or when there is some obstetrical or organic complication embarrassing the initiation of respiration. Premature babies or those with defective hearts may be stillborn. There always is the possibility of resuscitation by artificial respiration by means of the various methods, or oxygen perflation should be tried.

There can be no doubt, concludes Webster, that, as regards the *fetus in the uterus*, cesarean section under local anesthesia causes the least disturbance and that nitrous-oxide-and-oxygen analgesia in combination with local anesthesia, detracts little from its safety and may add considerably to the comfort of the mother. After delivery and before tying the cord, it is quite possible to oxygenate the child through the maternal circulation, reestablishing the analgesia after the cord has ceased pulsating.

Facts and Fallacies Concerning Cancer

By G. BETTON MASSEY, M. D., Philadelphia, Pennsylvania

THE prevailing impression about cancer among those not especially interested is closely associated with the idea of incurability, an idea based but too often upon casual experiences that make such an association highly logical. For, even in the medical profession, the crowded undergraduate curriculum has presented all too little opportunity in the past to impress upon us *the true key to successful treatment; namely: that malignant growths, more than other diseases, present a certain time-limit in their life-history during which they often are highly curable, but, beyond which time-limit treatment is deplorably different in results.* The recognition of this time-limit, therefore, is exceedingly important. For reasons to be mentioned shortly, it will be seen that the diagnosis of cancerous growths during this time-limit of high curability demands, in many cases, the cooperation of the patient, and that, until certain popular errors concerning cancer are corrected, we can not hope for effective cooperation and a betterment of results.

To emphasize the importance of this time-limit of high curability, I may refer to the results in about 300 cases, reported several years ago to the Philadelphia County Medical Society, in which permanent eradication followed efficient local destructive methods in about 93 percent of 100 cases treated during this time-limit, while only 20 percent were effectively treated in the other 200 cases seen after this time-limit had been allowed to pass. The experience of others employing the same or similar methods is fully corroborative, while it is well known that excision, even, often is effective when done sufficiently early.

The life-history of a cancerous growth consists of three periods:

First Period

This is the period of local self-containment, when the cell-infective process is strictly confined to the original site of appearance or its immediate vicinity, the dissemination beyond the organ or part of organ first attacked being yet by continuity of tissue only, and not by distant colonization. The length of this period varies with the type of the particular growth (and, possibly, the resisting-power of the host), being as short as a few weeks in certain

highly malignant, fulminant types of carcinoma of the breast; lasting, possibly, a few months in less malignant types both of carcinoma and sarcoma; and lasting, possibly, for years in certain skin-cancers.

During this first period, a cancer resembles in almost all respects a benign growth, being neither tender, painful, ulcerated nor hemorrhagic. Since the general public invariably believes that nothing is cancerous unless it presents these symptoms, it can readily be seen that relief is not likely to be sought during this period of the life-history of a cancer-growth.

What are the presumptive signs of cancer in this part of its life-cycle? The answer is, that these negative signs mentioned as associated with a slowly growing tumor are, unfortunately, the most important—unfortunately, in that the very absence of suffering or fear-producing-effect upon the patient is their deadliest feature. To the absence of tenderness, pain, ulceration, and hemorrhage, the expert must add certain evidences gained by the educated touch: hardness; possibly an irregular outline; later, greater fixation than in benign growths. Under no circumstances, must a suspected growth be incised, for a microscopic specimen, in this period; for the certain effect of this procedure means an aggravation of malignanacy and the termination of local self-containment. This period corresponds to the time for most favorable results from treatment.

Second Period

The first period in the life-history of a cancer may be self-terminated at any moment by the erosion of a lymphatic vessel by advancing malignancy and the entrance of a minute graft, to be transported by the lymph current to the nearest lymphatic gland, there to form a daughter tumor of the same character as the mother tumor. Varying periods of time are required, of course, for this daughter tumor to become large enough to be detected by palpation. For a longer time, the infected gland protects the other glands beyond it and the general circulation, thus giving still another opportunity for effective treatment, if both the mother and the daughter tumors are destroyed promptly.

Third Period

The second period terminates when a graft is washed, through the daughter tumor, into a less accessible lymph-gland and thence into the general circulation, or when a graft enters the venous circulation direct, thence to lodge and grow in any one of the internal blood-straining organs. It is unnecessary to describe the symptoms of this period, save to say that it presents one or all of the signs generally attributed by the people to cancer. To the unfortunate majority of patients, it brings the first realization of their plight.

Need of Popular Information

I know of no more useful expenditure of an endowment-fund for life-extension than the correction of this terrible misconception among the people by a campaign of enlightenment that would place a plainly worded pamphlet into every home. Such a pamphlet should make plain the following points:

1. Cancer is not hereditary.
2. Cancer is not a "constitutional" disease.
3. Cancer is purely local when first acquired, and it has a period in its life-history during which it may at times be completely removed or destroyed, thus curing the patient.
4. During the period of curability, cancer is not tender to the touch nor is it painful, ulcerated or hemorrhagic; yet, at this time, if untreated, it is as dangerous to life as is the most advanced case.
5. A person that has a nontender, nonpainful tumor that gradually increases in size week by week or month by month should seek treatment at once.
6. The idea, that only a painful, tender or ulcerated growth can be a cancer, is a most serious error and is responsible for most of the mortality from cancer-victims. These conditions attend cancer only in its later stage. The fact, that an apparently simple and harmless tumor is not sore, ulcerated or painful, is a most serious sign, pointing to cancer itself, although still in a curable stage. Tenderness and early painfulness of a tumorous growth are strong indications that it is not cancerous.
7. There is no evidence that cancer is either contagious or infectious.[1]

[1]Note: Until adequate help is secured for the suggested educational campaign the writer will be glad to forward a few reprints of these remarks to any physician asking for them.

Diagnostic Points on Headaches, Supraorbital Neuralgia, Chronic Otitis Media, and Pain Around the Eyes

By F. A. WIER, M. D., Racine, Wisconsin

TO begin with, most of these socalled neuralgias and headaches are merely the external manifestations of some deep-seated condition, which must be removed in order to cure the trouble. You may remember that, a few years ago, it was the common practice to make an incision over the supraorbital notch, expose the nerve and stretch it, thus expecting to cure supraorbital neuralgia. You also may remember that this operation did not prove satisfactory and came into disrepute, simply because it aimed at the symptoms instead of at the cause.

Now study the problem of supraorbital neuralgia. The symptoms all point to congestion. The eyelids are swollen, there is pain and fulness over the eyes, pain back of the eyes, and attacks of terrific periodical headache, which incapacitates the patient for two or three days. The victim tries the whole coterie of "healers", without getting the slightest relief. Only an occasional hypodermic of morphine stops his suffering.

Now, what is this thing that baffles all of the healers? Look into the nose and see. There you will find a greatly enlarged middle turbinal, which may or may not shrink upon the application of a solution of cocaine and adrenalin, depending upon whether or not the condition is acute or chronic. The turbinate may be tightly wedged against the septum, the lateral wall, or both, if very large. Well, what harm does this do? And, how does it explain the headache?

You have read that, nowadays, in good medical society, they are not removing turbinates. I even have read in this journal that it were best to forget that such an operation had ever been performed. True, the author did not mean that exactly, he referred to the lower turbinate; but, he failed to explain. It is true that it was quite the fad at one time to remove the lower turbinate. It isn't being done nowadays, since rhinologists have learned to place the blame where it belongs—on the middle turbinate.

Look up your anatomy, and you will find that there are three turbinated bones. Now study the middle turbinal and the nasal accessory sinuses, and you will readily understand why the middle turbinal is so important and why its pathology should be understood by every physician, no matter what his practice or specialty may be. "Some gynecologists think that all headaches are caused by some slight uterine displacement. They have another think coming."

In studying the nasal cavity, we learn that the inferior meatus is that portion of the nasal cavity below the inferior turbinal and contains the nasolachrimal duct at a point about one inch behind the anterior nasal orifice. The middle meatus is that portion of the nasal cavity lying between the middle and the inferior turbinals, into which open the ostium maxillare, the anterior ethmoidal cells and the infundibulum.

The superior meatus is the pathway that extends between the superior and the middle turbinals, into which open the sphenoidal sinus and the posterior ethmoidal cells. It is closed in front and opens only downward and backward. Any obstruction of the drainage of the watery secretion from the nasal accessory sinuses (and which amounts to 500 mils in 24 hours) will cause any or all of the above-mentioned symptoms. The removal of the middle turbinal will open the floodgates confining this sea of trouble. The nasal cavity, the accessory sinuses, and the pharynx are lined with the same mucous membrane. This fact explains the ease with which an infection may extend throughout this entire region. The physician should not regard these conditions lightly. It is about time that the blanket-diagnosis of "just a cold" gave way to something more definite and scientific. Perhaps *infectious rhinopharyngitis* would demand a little more

consideration from both patient and physician.

Chronic Catarrhal Otitis Media, and Deafness

Any obstruction in the nares produces hyperemia and interferes with the drainage of the nasal sinuses; also, the vacuum thus produced further increases the hyperemia. When this condition extends to the post-nasal mucosa, with enlargement of the middle turbinal, we have the exciting cause of chronic otitis media, associated with more or less deafness. And, the common practice of irrigating the external auditory canal is a waste of valuable time. Also, irrigating the nose is just as useless. Swabbing and squirting is old stuff and has no place in up to date practice.

Look into the nose, start at the anterior nasal orifice and go right through to the posterior nasal space. Clean up as you proceed. Deviated septa, enlarged middle and superior turbinals, adenoids, infected tonsils, one or all of these conditions may be causing the trouble.

Bear in mind that the cleanout and cleanup motto applies to the human body as a whole. How many physicians, I wonder, are competent to make a thorough scientific examination of the skin and its contents. Even from the ruby lips to the puckered anus? If they can not, then, why not? Take a postgraduate course and get hep to some of this stuff. It pays big. I know a physician who charges twenty dollars ($20.00) for an examination, and, he is very, very busy. People are getting wise to the swivel-chair doctors, who merely look at your tongue and write a shotgun prescription, for 50 cents or a dollar.

In which class do you belong? If you find yourself in the 50-cent class, borrow some money, take a postgraduate course, then, if you also find you are living in a 50-cent town, borrow some more money and get out of it. Perhaps you wonder why I say, Borrow money? Perfectly simple. If you are a 50-cent man living in a 50-cent town, it's dollars to doughnuts that you are broke. Am I right or wrong?

Heart-Sounds and Their Value*

By HOBART AMORY HARE, M. D., Lieutenant-Commander, Medical Corps United States Naval Force

A NUMBER of years ago, I placed the following words on the flyleaf of the seventh edition of my book, "Diagnosis in the Office and at the Bedside:" "In the diagnosis of a given disease, it is essential that the physician rest his opinion, not upon one or two symptoms, but, upon a series of symptoms that, when properly put together, give him a complete or nearly complete picture of the malady. It is as futile for a physician to base a diagnosis upon a single symptom as for an architect to attempt to determine the appearance of a house by seeing one of the stones that has been removed from its walls."

I quote these words, because, at the present time, it is of infinite importance to the country as well as to the individual that men really capable shall not be classed as incapable, and, because the opinion of an examining physician, if in error, may work great harm.

It is not many years since the presence of a murmur in the heart was supposed to indicate cardiac therapy, whereas, we now know that many hearts that greatly need treatment give rise to no murmur at any time, or, in some instances, only when the heart becomes strong enough to make a murmur audible.

There is, in no examination, greater need for putting together all of the symptoms before reaching an opinion than when determining the state of the heart, and I am induced to emphasize this point, because many persons have been rejected for service when in reality perfectly fit for it.

Classification of the Heart-Cases

For the sake of brevity, I take the liberty of separating heart-cases into groups.

First, those in whom a mitral systolic murmur is definite, distinct, constant, and well transmitted, and in whom there is a

*This excellent article, which appeared in *The U. S. Medical Naval Bulletin* for January, is so instructive that it was considered worthy of reproduction in full, rather than merely in abstract.

history of rheumatism more or less remote. These patients undoubtedly have an actual valvular lesion and their good health depends upon adequate compensation, which only is attained by hypertrophy and the utilization of some of their cardiac reserve power. It is hardly necessary to state that such persons should be turned down. They are bad risks for service or life-insurance.

Second, those in whom a definite presystolic purr, or short murmur, is heard inside the nipple-line at about the fourth or fifth rib, accompanied by accentuation of the pulmonary second sound, which murmur is usually made louder by exercise or a fairly full dose of digitalis. If the heart is not tired out, sharp exercise, such as the 100-hop test, usually exaggerates this murmur. When the heart is on the verge of fag, however, sharp exercise may cause this murmur to disappear and the patient becomes dyspneic and distressed. This type also is definitely to be turned down.

Third, those in whom there is a definite murmur, diastolic in time and clearly aortic in origin. The apex beat is distinctly displaced to the left, downward, and the heart is manifestly enlarged. Here, again, there can be no doubt that the man is unfit for service.

Fourth, the individual who has an irritable and rapid heart, with poor development as to the vascular and muscular tissues. All the lines of his body slope sharply from behind forward. The line of the jaw drops sharply, the shoulders droop, the ribs droop, and the knees droop. The figure, as he stands, presents the lines of a cadaver that hangs from hook or chain. The apex beat of his heart is diffuse and there is much apparent thrill to the eye of the observer, but, little or none to the finger-tips. Here is a man that lacks tone in his muscular, vascular, and nervous systems. He can not stand stress of any kind, he sweats while being examined, particularly profusely in the axillary spaces and on the hands. He bleeds readily into his great vessels. In such a case, the heart may be devoid of murmur, of arrhythmia or of any other sign of lesion; but, its sounds lack tone. Such a case, perhaps, should be classed as one of "neurocirculatory asthenia" of Lewis; but, it does not belong to the class called by DaCosta the "irritable heart of soldiers"; since in these persons the cardiac state often is due to great physical and mental strain, whereas, in the type I have described, it precedes strain and is practically a congenital defect. Such a case is well represented by a youth that entered the cavalry. Placed upon a horse and ordered to charge over a field, in squadron formation, he lasted through the charge, but, fell off, as it ended, in a dead faint. He remained cold and pulseless for some hours. He stated afterward that he had had no sense of fear, but, that it seemed to him as if he could not get his breath and as if all the blood had left his head. Doubtless this was largely true. His neuropathic vascular system did not meet the strain of excitement and effort. These cases are, of course, unfit for service, although a gradual course of neurocirculatory training may greatly improve their value as citizens.

As to Doubtful Cases

At this point, we approach the border of what may be called "the land of doubt"; namely: as to the value of the systolic murmur at the aortic cartilage transmitted up into the carotid artery, because, while it is true that most of these patients should be rejected, many of them are capable of service, and, if examined again, it may be found that the systolic hum may have disappeared. If the man is over 30 or 35 or if there is a history of syphilis or rheumatism at any period in his life, his rejection is necessary, particularly if the palpable vessels are thickened.

It is not necessary, in the types so far discussed, to look for collateral symptoms of cardiac origin, for, up to this point, he that runs may read what should be done.

But, now we come to a very considerable class of cases in which much difference of opinion can conscientiously be adhered to. We are now in the land of doubt, and, just as anyone in doubt looks for all the signs that may guide him well, so is it imperative that he study, not one, but, all the stones that are to form the arch upon which the decision will rest.

Types of the Doubtful Cases

Here, again, we may take up types.

First, the well-built, lithe youth, with no rheumatic history, in whom we discover missed beats or extra systoles, and which irregularities disappear upon his taking the 100-hop test. At times, the disorder of these hearts, when at rest and, particularly, when they are being examined, is very great, but, exercise does not cause dysp-

nea. These hearts are often met with in athletic youths that have begun to lead sedentary lives and who may or may not still be using the amount of tobacco that it may have been their custom to use when leading an outdoor life. Occasionally, a short, quick murmur, inconstant, is discoverable, because a valve "does not sit well," to use a machinist's phrase. I have watched cases of this kind for many years after first seeing them, and they do not come to grief by strenuous exercise. Thus, one of them was, for a number of years, a celebrated hockey-player, then became the captain of one of the great university football teams, and for more than a year he has been flying in France, where he has won the Croix de Guerre. He had found that the only thing that ever caused cardiac irregularities was, lack of exercise. This type is a good risk.

When, however, such irregularities occur in men past the fourth decade of life and do not pass away upon exercise or even increase upon exercise, they possess great importance. They may be owing to the excessive use of tobacco; but, if associated with high blood pressure, they usually are grave in nature and deserve very careful study, with particular reference to the effect of exercise, the condition of the blood-vessels, and the condition of the urine. None of these cases, however, should as a rule, be rejected—unless there are evidences of cardiovascular-renal lesions—until they have been examined with the aid of the electrocardiograph or, at least, of the polygraph, since a purely physical test may be given an erroneous value.

Second, the type in which, under stress, there develops a mitral systolic purr. This type was often seen, before the war, in football-players immediately after a hard game, and in oarsmen after a contest. This murmur disappears upon rest. It is "a safety-valve-murmur", owing to relaxation of the mitral ring. This type, other things being equal, is a good risk. The persistence of this murmur for more than an hour or two, particularly if the person be over 30 years of age, raises a question as to the quality of the muscular fibers forming the ring at the base of the mitral leaflets, and indirectly raises a question as to the quality of the entire heart-muscle or its ability to withstand strain.

Third, the type that, under the excitement of a physical test, presents, at a point about 1 inch to the left of the sternum, at or above the nipple-level, a short flapping or tapping sound, single or double, not transmitted to the nipple nor up or down. It is not a murmur, but, a valve-sound; in one sense, resembling, except that it is not so loud, the valve-sound heard in a motor when climbing a hill a little too steep for the high-speed clutch. I wish to put especial stress upon this sound, as, in my experience, it has no more significance as to the presence of a heart lesion than the twitching of one of the voluntary muscles justifies a diagnosis of chorea. It is sometimes a sign of nervous stress and may pass away while the patient is being examined, exercise may or may not dissipate it; mental quiet often dissipates it. This is a type of cases most frequently turned down, without adequate reason. A dose of 20 grains of bromide a few hours before the next examination, alone or with aconite or digitalis, often will let this man pass another test; but, even if this tapping valvular sound, if heard in the area described, persists, I have never found it to indicate incapacity of the heart for severe effort. This type should not be rejected.

Closely allied to this, is a systolic sound, not a murmur, heard, when a towel is used in auscultating, between the base of the heart and the apex beat. It is met with in nervous persons with a rapid heart action, and it resembles the sound "ching". Often it is heard better upon light rather than upon heavy pressure. I described this sound before the Association of American Physicians some years ago. At times, it is like a friction-sound, with a metallic tone. As a rule, it is inconstant and often is lost when the patient lies down. It has no evil import.

A cardiopulmonary murmur, heard below the left clavicle upon full inspiration or full expiration, is without significance as to the heart, although it may, in some cases, indicate trouble in the lung. Finally, I should like to emphasize two points, one of which has been especially insisted upon by Sir James Mackenzie, who said: "A perfectly sound heart can give rise to murmurs. If the heart is not otherwise impaired, if it is normal in size, normal in rate, and the response to effort is good, ignore the murmur, it makes no difference where you hear it." From what I have already said, it is evident that I do not go as far as this very eminent expert in the

study of the heart; but, his statement is quoted, to emphasize the fact that all unusual heart-sounds are not evil things.

The second point is, to recall that the heart is not an isolated organ, independent of the nervous system and the rest of the vascular system, nor is it like a piece of machinery made of unyielding metal. Its muscle-fibers have play, they vary with every need of the body in that play. Its valves are not rigid, the bases on which these valves rest are not fixed or rigid, and the chordæ tendineæ constantly vary in their tension; so, too, do the musculi papillares vary in their form. Last of all, it is as important for health and for service that the vessels shall be elastic and well controlled as that the heart be normal; for, unyielding vessels weary the heart, not only for offering undue resistance, but, by failing in their own contractility to help in the circulation of the blood, as Ludwig and Brunton showed many years ago. Conversely, a vascular system that relaxes unduly when effort is made also exhausts the heart, which works to excess in order to keep the vessels properly supplied with blood.

Notes on Meningitis

With Clinical Report on 5 Cases

By HYMAN I. GOLDSTEIN, M. D., Camden, New Jersey

[*Continued from April issue, page 288.*]

A Review of the Literature

I REPORT the second case because meningitis is exceedingly rare in young infants. Moses Barron, in a careful review of the literature (*Amer. Jour. Med. Sciences*, Sept., 1918), found only 39 cases reported occurring in infants less than three months old. Of these 39 cases, only 19 were in newborn. The umbilicus is the most important route for such infection, according to La Fetra. Rasch, Koplik, and Aschoff believe that the avenues of infection of the middle-ear, that of the eustachian tube, and of the external auditory canal are most important. Barron concludes that meningitis

(1) in the newborn and in early infancy is a rare disease; (2) that the colon-bacillus occupies, in the early months of infant-life, the important place that the tuberculosis-bacillus holds in the meningitis of later infancy.

Of the 19 cases in newborn, 7 were due to the colon-bacillus, while 6 cases were caused by the staphylococcus and streptococcus. Of all cases of tuberculous meningitis in children, 75 percent occur before the fifth year. The largest number occur during the second year. (Smith, *Ill. Med. Jour.*, 1913, XXIII, p. 299). Holt (*Amer. Jour. Dis. of Children*, 1911, I. p. 26), in a review of 300 cases of meningitis in children up to three years old, found that the tuberculosis-bacillus was responsible for 70 percent of this series, but, only 1 percent was in infants under three months of age. If epidemic meningitis be excluded, from 55 to 70 percent of all cases of meningitis in infants and young children are tuberculous in origin.

Besides the auditory canal, eustachian tube, and umbilicus, the mouth (by means of fingers or instruments of the accoucheur), spina bifida, and the intestinal tract may be portals of entry of infection in meningitis of newborn. Some infections occur in the bathtub through the water that has become contaminated. Breastfed babies have greater resistance than those artificially fed, probably because of the compensation of the passive immunization by the breast-milk for the active immunization that still is deficient.

Dr. Walter L. Niles, of Bellevue Hospital, New York, recommends that sterile horse-serum or even antimeningococcic serum be given introspinally, as this may set up a cellular reaction, and may do some good in these otherwise hopeless tuberculous cases.

Simulating Diseases, and the Symptomatology

Serum-disease is an anaphylactic phenomenon, evidencing the sensitization of the patient's cells to horse-serum. Eosinophilia often is found in this condition, and there also may be a delay in the coagulation-time of the blood. It develops eight or ten days after the first injection of

horse-serum and is manifested by joint pains and urticaria, particularly. Joint pains are a common symptom. It is important not to mistake it for an exacerbation of the infection itself and, so, to give more of the serum. If this mistake is made, the meningitis-symptoms will increase temporarily or, if several days have elapsed since the last injection, there is danger of anaphylactic shock.

Meningococcic Meningitis.—Meningococcic infection is irregular in every symptom, and treacherous relapses may occur or a subacute serous or chronic meningitis may develop. These latter are rare providing the serum be administered early in the case.

Cerebrospinal Meningitis is an infectious disease of the pia mater and arachnoid membrane of the brain and spinal cord. The commoner causes are diplococcus intracellularis, bacillus tuberculosis, pneumococcus, streptococcus pyogenes, staphylococcus pyogenes, and bacillus influenzæ. Epidemic cerebrospinal fever, or spotted-fever, is caused by the diplococcus intracellularis meningitidis (Weichselbaum).

Symptomatology of Meningitis

The incubation-period is unknown, but, it is brief. There is a prodromal period consisting of rachialgia, joint pains, lassitude, headache and vomiting, backache, and constipation. The actual attack, as a rule, begins abruptly with a chill, raging headache, and vomiting.

Convulsions are common in children. Backache and pain in the cervical spine are prominent symptoms. Dysphagia, moderate elevation of temperature, photophobia and strabismus, herpes and petechial eruptions may be present. Convulsions are rare in adults. Ptosis is common. Anesthesia of the cornea and conjunctiva occurs in 50 percent of the cases, according to Burville-Holmes (*J. A. M. A.*, 1908, L. 280), giving rise to conjunctivitis. Purpuric spots may appear. Sighing respirations and Cheyne-Stokes breathing not present. Delirium appears in some cases quite early, in others not at all. Motor-irritation symptoms are quite common, such as twitching of single or group muscles, muscular contractions. Tonic spasms of muscles of the extremities may set in and myoidemas. Leukocytosis (polymorphonuclear) usually is present.

The Kernig sign is explained by the irritation of the meninges of the lower portion of the spinal cord and of the nerve-roots that constitute the cauda equina, together with intraventricular pressure. It is, sometimes, also seen in tetanus and typhoid fever. The Brudzinski or "frog-sign" is, when you flex the chin upon the chest with one hand, while you steady the patient with the other, the arms are drawn up and the thighs and legs are flexed. (The patient lying flat on the back.)

The "identical" or "contralateral" reflex is, that the eliciting of Kernig's sign in one lower extremity causes a reflex flexion of the thigh on the opposite side of the body.

The absence of eruptions does not argue against cerebrospinal meningitis, for, according to J. L. Morse, eruptions are far more often absent than present in this disease in childhood. The *tâches cérébrales* are of no importance in the diagnosis of meningitis, as they are present in other conditions in childhood. In some cases, however, this is quite marked.

Diagnosis

Tuberculous Meningitis, according to A. Jacobi, frequently has its origin in tuberculous bronchial lymph-glands and is most common in children between 2 and 7 or 8 years of age. There are, usually, three stages, namely: the stages of cerebral excitement, the transitional stage, and the third, or paralytic, stage.

Choroidal tubercles may be detected in the eye (although rarely), and the Mac-Ewen sign may be present. The Mac-Ewen sign is, a hollow note elicited on percussing over the inferior frontal or parietal bone—an indication of fluid in the ventricle. Leukocytosis more often is absent, or a leukopenia may be present. A leukopenia is consistent with tuberculous meningitis, but, not with other types. There may be tuberculosis elsewhere, as, for instance, in the lungs.

The typical night-crying or hydrocephalic cry occurs in children. The positive ninhydrin reaction of the spinal fluid aids in differentiating this disease from typhoid fever, pneumonia, and digestive disturbances in children.

R. C. Cabot makes the statement that tuberculous meningitis is not an absolutely fatal disease. Perhaps one victim in four or five hundred recovers. "In every case, we can truthfully say to the family that there is hope and that recovery is possible." The cerebrospinal fluid shows a

lymphocytosis, the small lymphocytes being in the majority.

Tapping the muscles with a percussion-hammer often brings out clearly defined swellings at the point of irritation, which lasts for a few seconds and disappears ("myoidemas"); and they are a certain indication of wasting of muscle. They are commonly very marked in tuberculous meningitis, but, may be present in other general conditions.

Cerebration may be normal until near the end. The tongue is very dry, indicating a severe degree of toxemia (except in mouthbreathers).

Meningismus

Meningismus, or "serous" meningitis, may occur in typhoid fever, uremia, pneumonia, and gastrointestinal disturbances associated with acute meningeal irritation and the hyperproduction of cerebrospinal fluid of practically normal composition.

In meningismus, there is stiffness of neck of moderate degree, usually, and without retraction, except in children. Kernig's sign mostly is present, but, not always, and the reflexes are likely to be more active than normal. In meningismus, the cells in cerebrospinal fluid are not very numerous and virtually all are lymphocytes. In tuberculous meningitis, the cell count is not so high as in the other purulent forms of meningitis, and the cells mostly are lymphocytes. But, in children, while sometimes, we do get a high cell count, the mononuclear cells as a rule predominate, although at times polymorphonuclears are in the majority. To decide, one must examine the spinal fluid for tubercle-bacilli, and even animal-inoculations may have to be resorted to.

In the other forms of meningitis, the cerebrospinal fluid is distinctly cloudy and runs freely under increased pressure. Examination shows a high cell count, and polynuclears as well as the mononuclears are increased, the former being in the majority. The Noguchi protein-test is positive. Fehling's solution is reduced by it. Sterile cultures and negative smears may at first be the result of the examinations of the cerebrospinal fluid; however, if persisted in, the organisms may finally be detected. After a week or two, it often is impossible to find microorganisms in the spinal fluid, and the process may become a low-grade inflammation, with a serous exudate and but little cellular reaction. When in doubt, it always is a good plan to give the antimeningococcic serum.

Be that as it may, any case in which there are delirium, unequal pupils, Kernig's sign, stiff neck, and leukocytosis calls for lumbar puncture. If the cerebrospinal fluid is very cloudy, one rarely finds the meningococcus on staining a smear in cases of true cerebrospinal fever. There may, of course, obtain a strepto- or a staphylococcemia, that is, a septicemia of pyogenic origin with a meningococcal meningitis, and one may, therefore, first find the staphylococcus or streptococcus organism and not until later the meningococci. It is, therefore, a good plan to give the Flexner serum at once. Osteomyelitis, infected tonsils or other foci of infection may exist. Staphylococcus aureus frequently produces osteomyelitis, while secondary, or pyemic, abscesses often follow. However, staphylococcus very rarely localizes on heart-valves and rarely attacks the meninges. The chances of recovery are greater in staphylococcal than in streptococcal acute purulent leptomeningitis, although the prospect of recovery from either is small.

In meningismus of *uremia*, there would be hypertension, hyperpnea, increased urea, creatin and creatinin in the blood, albumin and casts, and the carbon-dioxide combining power of the blood as well as other blood chemical tests may rule out uremia

Typhoid Fever

Headache here is quite severe, but, is not ordinarily occipital and does not last all through the course of the disease. Backache and pain along the cervical spine are not prominent symptoms. The splenic enlargement, the rose-spots, typhoid-bacilli in blood-cultures, the Widal reaction, leukopenia, dicrotic pulse, the urochromogen urine test or Ehrlich's diazo-reaction, and the temperature-chart—all these help toward the diagnosis of typhoid fever. The intolerance of light and sound, the marked hyperesthesia, exaggerated reflexes, peevishness and restlessness of meningitis-patients are absent in typhoid fever.

The pulse is slow, also, in proportion to the fever in meningitis, but, is not dicrotic as in typhoid fever. The diazo-reaction (urine) in any disease is a bad prognostic sign; its absence in a febrile case argues against typhoid fever.

Meningo-Myelitis

Is the commonest form that syphilis takes in the central nervous system; and.

therefore, this condition, when more or less acute, must be ruled out. This is also a surface infection of the spinal cord and brain—the original infection occurring in the membrane covering the nerve-tissue and the arachnoid pia.

The Wassermann spinal-fluid and blood tests, the history of the case, and the therapeutic test are measures that help to differentiate this condition, with the study of the cerebrospinal fluid, and bacteriological and cytological results. "Xanthochromia and massive coagulation" or the "syndrome of Froin" would be absent. It is not present, usually, in the cerebrospinal fluid of acute meningitis cases. It is due to pressure and localized stasis of the fluid along the spinal meninges; there is a great excess of protein and spontaneous coagulation of the cerebrospinal fluid in the test tube, with but slight or no increase of cells; most often it is seen in cases of spinal tumor and inflammations and reactions following injuries of the spine. However, it must be remembered that in all instances of acute inflammation of the meninges the protein is increased (a mixture of globulin and albumin) in the cerebrospinal fluid. The total quantity normally is about 0.02 to 0.03 percent or 0.2 to 0.3 Gram per 1000 mils (Cc.) of spinal fluid.

A decrease in dextrose in the cerebrospinal fluid occurs in the acute meningitides. Normally, there is 0.048 to 0.058 percent or 0.48 to 0.58 Gram per 1000 mils of spinal fluid.

Next to "xanthochromia", the largest amounts of protein are to be found in surface infections of the meninges as the meningitides, due to meningococcus, pneumococcus, streptococcus, tubercle-bacillus, and influenza-bacillus.

In *acute anterior poliomyelitis*, the inflammation is, primarily, an interstitial meningitis rather than a surface infection and, therefore, one does not usually find a large amount of protein in the cerebrospinal fluid. The Pandy and Noguchi or Kaplan tests or the Mayerhofer "permanganate-reduction-index" test may be used for the estimation of the protein content.

Malaria

The enlarged spleen, the history of chills, the malarial plasmodium in the blood, and the leukopenia would suggest malaria. Softening and enlargement of the spleen generally indicate, only, that some acute infection is present.

L. F. Barker says that, when a diagnosis is uncertain in the case of a patient having high temperature, a blood-culture always should be made. In the first week of typhoid fever, a blood-culture gives positive results in 90 percent of the cases. The same is true for lobar pneumonia. In a large proportion of pneumonia-cases, you can grow the pneumococcus from the blood inside of twenty or twenty-four hours. In acute meningitis, you may get in a blood-culture the meningococcus—possibly one of the other organisms (such as staphylococci and streptococci), that give rise to the disease—in one-third of the meningitis-cases within twenty-four hours. This point deserves to be especially emphasized; that is to say, the importance of taking blood-cultures early in fever-cases. Bile-bouillon or blood-agar may be used as the culture-medium. Blood-agar also is a good medium for spinal-fluid culture in suspected cases of meningitis. Barker says that herpes is a very common accompaniment of meningococcal meningitis—more frequently so than in malaria.

In the differential diagnosis of the various forms of meningitis and such diseases as have already been mentioned—namely, malaria, typhoid fever, meningismus, uremia, and meningomyelitis—we must also include acute anterior poliomyelitis, especially the cerebral, or meningeal, form known as Heine-Medin disease; and, lastly, sinus thrombosis.

Sinus Thrombosis

Sinus thrombosis, when extending to the meninges, with high fever and high cell-count, could be ruled out by the absence of dilatation of the cranial or facial veins, with no swelling of eyelids, no cyanosis of orbital or frontal regions, no protrusion of eyeballs, no engorgement of retinal veins, no mastoid signs; no otitis media, and nothing abnormal palpable in the jugulars. Brain abscess and acute encephalitis extending to the meninges also can be ruled out.

[*To be continued.*]

What Others are Doing

DIAGNOSIS OF INFLUENZA

In a paper on a typical tender spot in influenza, Boeckler, quoted in *Medical Supplement* (London, Dec. 1, '18), draws attention to a sign which in his experience is never absent in true influenza and the absence of which excludes the disease. This tender spot which is usually bilateral but may be present on one side only is found as follows: A horizontal line is drawn two fingers' breadth above the highest points of iliac crests with the patient in the vertical position. The point where this horizontal line intersects the outer border of the longissimus dorsi is the characteristic influenza tender point, which corresponds, according to Boeckler, to the space between the third and fourth lumbar vertebrae. This sign is often the only objective finding present at the beginning of the disease, and sometimes persists after all the other symptoms have disappeared. Boeckler has never found it present in any other disease, and considers that its constant presence in influenza proves that a more or less marked neuritis is constant in this disease, affecting all the branches of lumbar segment, and the fourth most of all. The hypothesis accounts for the pain in the back and legs and also for the giving way of the knees so frequently observed in influenza, as the fourth lumbar nerve sends motor fibres to the inner side of the leg.

SALICIN-THERAPY IN INFLUENZA

In view of the many emphatic objections that are being raised, by some of our correspondents, to the employment of "aspirin" (which is acetylsalicylic acid, that is to say, a derivative of salicylic acid), and also with reference to the experiences recorded by Doctor Rittenhouse (this journal, April, p. 263), who reports most excellent results secured from the use of sodium salicylate in scarlet-fever, a communication to *The British Medical Journal* (March 8) by Dr. E. B. Turner, of London, is of interest.

Doctor Turner has employed salicin in upward of 2,300 cases of influenza since the first epidemic of 1889, every one of his patients having recovered completely, without ensuing complications and without occurrence of a single death. In his present communication, he presents a table showing the duration of 335 cases of influenza that came under observation in the November and February epidemics, in every case, 20-grain doses of salicin having been administered every hour for twelve hours, and thereafter every two hours for the next twelve hours. The table shows that the earlier the patient can be got fully under the influence of this drug, the shorter was the period of the fever and the more rapid the recovery. In none of the patients was there any complication, recovery being perfect in every instance. The ages of the patients ranged between 7 and 77 years. For children under 16 years of age, the dose of the salicin was reduced so as to make 1 grain for each year per hour; a child of 10, for instance, receiving 10 grains every hour.

In about 30 of the 335 patients, more or less buzzing in the head was complained of, while in 3 a red punctiform rash appeared, and sudamina in a larger number. Both the rash and the buzzing subsided with the omission of the drug. Doctor Turner found that usually those cases that began with a very high fever (103.5° to 105° F.) seemed most amenable to the salicin-treatment and terminated more rapidly than those in which the initial temperature was moderate.

Incidentally, Doctor Turner's observations confirm the view expressed by bacteriologists, that the November and February epidemics were different from that of last summer, the clinical symptoms being more severe and the salicin-treatment giving him not quite as good results. However, "in all epidemics", from that of 1889,

up to and including that of last July, virtually every case treated with salicin in the manner outlined came to an end without complication in forty-eight hours, at the latest. Since last November, the abortion of the disease is not so prompt, symptoms persisting for five, six or seven days. Nevertheless, with the treatment employed, complications were avoided and recovery was rapid without after effects.

THE CAUSES OF COLDS

An unusually satisfying article on the etiology and treatment of colds, by Dr. Oliver T. Osborne, of New Haven, Conn., appeared in the *New York Medical Journal* for March 29. The detailed study of this article is recommended cordially to all practitioners.

Doctor Osborne says, in accordance with present-day views, that probably all so-called colds are due to infection and that they also are contagious. Among the many germs that produce colds, the micrococcus catarrhalis has been definitely identified, while the causative importance of pneumococci and of streptococci is not established so clearly. It is assumed, however, that there are other germs that rapidly spread contagion but which have not yet been discovered.

While Doctor Osborne declares that vaccine injections from mixed bacteria found in the mouth or nose probably rarely prevent colds, and that the general advice given to patients simultaneously with the vaccine treatment and perhaps special nose and throat treatment would tend to prevent their occurrence, we are inclined to disagree, having found in many instances that the sole injection of such vaccines possibly repeated several times, broke up an existing habit of acquiring cold, the treated persons having remained free for long periods of time.

Doctor Osborne wisely warns against underestimating the importance of colds, since these never leave the patients in perfect condition but always necessitate a period of recuperation, while, furthermore, they predispose to repeated attacks. Indeed, a "cold" may be the indirect cause —by creating a predisposition, or, a lessening of resistance—of subsequent follicular tonsillitis, diphtheria, pneumonia, influenza, and also such diseases of children as measles, whooping cough and scarlet fever. "Colds, especially in young children, should be considered regrettable recurrences and should always be properly treated and never neglected."

THE PREVENTION OF COLDS

In the article cited in the foregoing, Doctor Osborne lays it down as a general rule that adenoids that are in the least obstructive should be completely removed. If enlarged tonsils do not obstruct the throat, they may be tolerated for a time. If, however, one or both tonsils are diseased, having pockets harboring secretions, germs, and perhaps pus, there can be no question of the advisability of immediate and complete removal. Yet, if a few surface pockets can be slit and treated and, thus, healed, tonsillectomy may be avoided.

Incidentally, while it is admitted that too many tonsils are being removed on the mistaken plea that a large tonsil is a bad tonsil—if the patient has recurrent attacks of tonsillitis and, certainly, if he has had one or more attacks of acute rheumatism, the tonsils should be sacrificed immediately.

Nasal hypertrophies or bone blockings of the nostrils should be treated conservatively, minor operations in this region being more satisfactory than major and the more dangerous resection. It is to be kept in mind that the nasal passages should not form a perfectly free open tube, the more or less crooked and narrow passages serving to retain dust and germs, also to warm the air before it enters the more sensitive larynx, trachea and bronchi.

The possibility of focal infection through neglected decaying teeth must be considered and acted upon because, undoubtedly, chronic infection of teeth and gums may be responsible for recurrent colds.

Beside local measures of prevention, it is essential to inhale a proper amount of fresh air, both in the day time and night time. However, the term "proper amount" should be emphasized. Foolish hardship and exposure is to be condemned as much as the avoidance of fresh air, since no person was ever yet hardened by it; no babe was ever yet hardened by sleeping out of doors when the cold is intense or during storms. Drafts blowing from out of doors and electric fans on some parts of the body do not prevent colds, nor is it reasonable to have the windows open as fully in

midwinter as in summer. Indeed, the fresh air treatment, in Doctor Osborne's opinion, is rather overdone, and we are glad to see him go on record that there is absolutely no excuse for the tuberculous patient sleeping so exposed that the snow comes on to his bed or into his face.

The clothing, both of children and adults, should be sensible. Extremes of overclothing as well as underclothing being reprehensible. And, wearing the same underclothing the year around is not a good rule for everybody, no matter how well some individuals may stand it. The skin should always be comfortably warm and normal, especially in cold weather, and insensible perspiration should not be prevented. Overclothing, as well as insufficient clothing, predisposes to cold. In similar manner, the use of cold sponging or of cold showers, if associated with brisk rubbing and exercising, may be of advantage.

Open-air exercise always is useful in increasing the peripheral and muscular circulation and preventing congestion of the internal organs and, hence, colds. In the matter of cold morning baths and much physical exercise, the individual susceptibilities and resources of strength must be taken into consideration. If the circulation is not good, it must be improved by graded treatments, the results being watched carefully. Otherwise, congestion of the upper air passages may predispose to the very colds that it is desired to prevent.

Proper food particularly is an important item in preventing cold. Anything that causes nervous excitation, as tea and coffee, in young children, or too much meat, or a diet that induces constipation, may cause congestion of the mucous membranes and predispose to colds. Highly seasoned foods, rich foods and much meat, alcohol, even smoking, may bring about similar conditions. It has long been recognized that constipation many times seems to produce congestion of the throat and nasal passages.

THE DRUG TREATMENT OF COLD

The stages of a cold are, inflammation of the mucous membrane—first, dryness, with congestion and swelling, followed later on by an outpouring of mucus secretion with increased leukocytes and then more or less purulent secretion. In the first stage, that of dryness with congestion and swelling, a cold may be aborted. Of primary importance is a brisk cathartic, milk and cereal diet, and a greatly restricted intake of liquids even if the patient is thirsty; though he may sip liquids and take small amounts of lemonade or eat oranges. To further this abortive treatment and stop the congestion of the mucous membrane from becoming greater, and, finally, pouring out large amounts of mucus, 1-500 grain of atropine sulphate should be given to an adult, every two hours, for five doses, and then every three hours for five more doses. A child ten years old could have this dose every three hours for five doses, and then every six hours for five more doses. The throat and mouth may be washed with a mild alkaline wash, as liquor antisepticus alkalinus, diluted with equal part of warm water. This may be used every two hours. Nasal sprays are inadvisable at this stage. Many colds are aborted by this treatment. Hot baths, body baking, and electric light baths, if one has the opportunity to take such treatment, by bringing the blood to the surface of the body and then relieving the congestion in the nose and throat, may aid in aborting a cold. If there is much fever, a dose of antipyrine may be advisable.

If a cold progresses, the congestion of the mucous membrane becoming severe, this will not abate until the secretion of mucus is free; consequently, this should be hastened. The atropine should be stopped, and ammonium chloride may be given, best in syrup of citric acid and water. If there is an irritable cough, codeine may be added to this mixture. If there are apparently influenzal symptoms in the patient, viz., severe backache, headache, and more or less fever, one or two small doses of acetanilid may be given; or acetyl salicylic acid in two or three doses. It is not necessary to continue these drugs more than two days, at the most, perhaps not more than one day. Such a patient must remain in bed for two or three days at least.

If the cough becomes productive and not irritable, the ammonium chloride mixture may be continued, but without the codeine. If the expectoration is profuse, terpine hydrate may be substituted for the ammonium chloride. It should always be given in powder or in capsule, or if a

tablet is given, it should be crushed before swallowing. If the patient has difficulty in raising the mucopurulent secretion from the bronchial tubes, and it is sticky and hard to expectorate, sodium iodide in small doses is the best treatment. After any cold, the patient requires a tonic, such as a capsule of quinine 1.10 Gram, reduced iron 0.05 Gram, and strychnine sulphate 0.0016 Gram, three times a day, after meals. If there has been any congestion of the ears, the quinine should be omitted. Some liquid bitter tonic may be given, if it seems preferable. (Oliver T. Osborne, in *N. Y. Med. Jour.*, March 29.)

THE AMERICAN JOURNAL OF CARE FOR CRIPPLES

The American Journal of Care for Cripples, which is the only special periodical in English on provision for the disabled, becomes a monthly with its January issue, according to announcement by its editor, Douglas C. McMurtrie. Although dealing extensively with the rehabilitation of the invalided soldier, this journal is, in no sense, a war-product, as it is now entering upon its eighth volume.

This periodical will, in the future, contain the studies, translations, and abstracts produced by the research-department of the Red-Cross Institute for Crippled and Disabled Men, which material has hitherto appeared in a special series of publications. The journal also continues as the official organ of the Federation of Associations for Cripples.

WORK OF THE ILLINOIS SOCIAL-HYGIENE LEAGUE

With the change of its name to Illinois Social-Hygiene League, the venereal-disease organization formerly known as the Red League, is planning to enter upon a drive against social diseases in Chicago and Illinois, according to its president, Professor Robert H. Gault, of the Northwestern University.

The change of name was voted at a recent meeting of the board of directors and at the same time plans were made to open the new drive with an annual meeting and exhibition of the evil effects of venereal disease and to illustrate the means employed to attack it. This exhibition, to be held in April, was to include, it was said, a public showing of the two governmental social-hygiene films titled "Fit to Fight" and "The End of the Road".

Soldiers and sailors recently discharged are being given free treatment for venereal disease at that dispensary of the Illinois Social-Hygiene League, 118 West Grand Avenue, Chicago, according to a plan previously entered into with the State Department of Public Health. Executive Secretary Bernard C. Roloff of the League reported at the meeting that more than 100 new patients are being received at the dispensary every month, of whom one-third are discharged soldiers and sailors, who are treated free and who have been referred for treatment by the American Red Cross and the U. S. Public-Health Service.

Men, women, and children to the number of nearly 1000 have received treatment at the League's dispensary, according to Secretary Roloff, and more than 5000 treatments were given since the dispensary opened in May, 1918. At the present time, 700 treatments are being given each month, many of these gratis. Nine physicians are on the staff, of whom three are women; four women's clinics being held each week.

The new drive began with the sending, by the secretary, of a series of four introductory letters to 6000 employers of labor, and the distribution of framed signs, to be hung up in shops and factories. Adequate treatment, irrespective of the cost, is to be given by the League to all persons suffering from venereal disease, the fees charged to be scaled to meet the financial standing of each respective patient or to be entirely waived when necessary.

The disbursements for the dispensary it is stated, amount to $1,500 monthly, only one-third of this coming, as fees, from patients, the remainder being made up by contributions solicited by mail. A campaign for funds to support the increased activities of the League was announced. Five hundred dollars a month in new contributions is asked for, besides an additional sum of $1,000 for necessary equipment and to permit the taking over of increased space to enable the League to continue its free treatment of soldiers and sailors, who otherwise would, in many instances, it was reported, return to their homes in an infectious condition and thus endanger wives and children or other members of their families.

Let's Talk it Over

Studies on Food Economics

Count Rumford's Experiments[1]

BEFORE proceeding further with the subject of vegetable food, we will pause to relate the result of Count Rumford's efforts to reclaim the beggars, bums, and thieves that infested the city of Munich. The Count, before he began his experiments at reclaiming these vagabonds, reasoned thus:

"The cause of the failure to cure this evil is, that all previous efforts started at the wrong end of the problem. With persons of this description, efforts to reclaim them by precepts, admonitions, and punishments are of little avail. But, where precepts fail, habits may, sometimes, be successful. To make vicious and abandoned people happy, it has generally been supposed necessary first to make them virtuous. But, why not reverse this order? Why not make them first happy and then virtuous? If happiness and virtue be inseparable, the end will as certainly be obtained by one method as by the other; and, it is most undoubtedly much easier to contribute to the happiness and comfort of persons in a state of poverty and misery than, by admonitions and punishments, to improve their morals."

Acting upon these principles, Rumford, after reorganizing the Bavarian army—not only as regards military discipline, but, in feeding, clothing, education, and useful employment of the men, in order to make them good citizens as well as good soldiers—he proceeded to attack the more difficult problem. Thus, he goes on to say:

"To convince the public that the scheme was feasible, I determined first, by a great exertion, to carry it into complete execution and then to ask them to support it." He then describes the conditions to be remedied, as follows:

"The number of itinerant beggars of both sexes and all ages, foreigners as well as natives, who strolled about the country in every direction, levying contributions from the industrious inhabitants, stealing and robbing and leading lives of indolence and most shameless debauchery, was quite incredible. These detestable vermin swarmed everywhere, and not only their impudence and clamorous importunity were without bounds, but, they had recourse to the most diabolical acts and most horrid crimes in the prosecution of their infamous trade. Young children were stolen from their parents by these wretches and their eyes put out or their tender limbs broken and distorted, in order, by exposing them thus maimed, to excite pity and the commiseration of the public."

Believing the public would not enter into any systematic plan to abate this evil, he took his measure accordingly. He distributed the army throughout the country districts, with orders to round up and capture all these beggars. On January 1, 1790, he bagged all the beggars of Munich in less than an hour by means of a well-organized civil and military battle. Then, having captured the beggars thus cleverly, he proceeded to carry out the above principles by taking them to a large building already prepared, where "everything was done that could be devised to make them real comfortable."

The first condition of such comfort, he maintained, is cleanliness. He says:

"Most of them had been used to living in the most miserable hovels in the midst of vermin and every kind of filthiness or to sleep in the street and under the hedges half naked and exposed to all the inclem-

[1]Our readers will remember that, in one of his earlier articles (Aug. 1918, p. 593) Doctor Cuzner presented some biographical data concerning Count Rumford who, despite his aristocratic name, was born in America, namely, at Woburn, Massachusetts (1753). Further information about this interesting soldier—statesman—savant—economist will be found in Vol. XXIII, p. 849, of the "Encyclopædia Britannica," eleventh edition.—Ed.

encies of the seasons. A large and commodious building was now their home, one fitted up in the neatest and most comfortable manner."

In this agreeable retreat, these beggars found warm apartments kept with the most scrupulous neatness; well warmed in winter and well lighted; a good warm dinner every day, gratis, cooked and served with all possible attention to order and cleanliness; materials and utensils for those that were able to work, teachers gratis for those who required instruction; the most generous pay, in money, for all the labor performed; and the kindest usage from every person, from the highest to the lowest, belonging to the establishment.

Here, in this establishment for the indigent and unfortunate, no ill usage, no harsh language was permitted. During five years, not a blow was given to anyone, not even to a child by his teacher.

This will likely appeal to my readers as a very expensive scheme of a very benevolent utopian; but, it was not so. At first, there was required a large outlay of money, but, at the end of six years, the accounts showed a net profit of 100,000 florins, while the reformed individuals constituted a large percentage.

When will our poorhouse management show as good moral and financial results?

I remember visiting the poorhouse of our county and, being invited by the superintendent, a physician, to take dinner, I sat down to the table; however, when the food was served, my stomach said "No!" although politeness compelled me to eat. The staple food served by Count Rumford was a vegetable soup, to which he also at first added a little meat for flavor, supplemented by some good bread. The food furnished by him did not cost, per individual, one-fifth of that supplied at the poorhouse where I suffered gastronomic martyrdom.

I found, upon consulting the recipe that Rumford selected as the basis of his soup, just that proximate element which we now know to be one of the most nutritious that he could have obtained either from the animal or vegetable kingdoms, namely, casein. He not only selected this, but, he combined it with those other constituents of food which our highest refinements of modern practical chemistry and physiology have proved to be exactly what is required to supplement the casein and to constitute a complete and palatable dietary. By selecting the cheapest form of casein and the cheapest sources of other constituents, he succeeded in supplying the beggars with good hot dinners every day at the cost of one cent each.

We will now consider some of these cheap and wholesome foods.

Before doing so, it will be as well to remind the reader that our bodies, at an average weight of 140 pounds, contain 120 pounds of water, and only 20 pounds of dry material. Count Rumford realized this fact, and likewise another, namely, that our food must be made palatable, in order to find acceptance in sufficient quantity to nourish the body. Consequently, he prepared a soup that was palatable, besides being capable of nourishing a hard-working man, and that at a cost of but one cent for each person.

The main ingredients of his soup were pearl-barley and peas, to which he added cuttings of wheaten bread. Below I name the ingredients for his soup (calculated to furnish dinner for 1,200 persons) to which I have ventured to add 10 cans of tomatoes and 10 pounds of Hamburg steak:

RUMFORD'S SOUP

141 pounds pearl barley	$ 2.00
131 pounds dried pease	2.00
69 pounds cuttings of bread	2.50
12 pounds salt	.25
46 pounds vinegar	2.25
1,077 pounds water	
	$10.00
10 pounds Hamburg steak	1.00
10 cans tomatoes	.75
Fuel for cooking	.25
Total cost for 1,200 persons	$12.00

Well do I remember crossing the Atlantic ocean in a packet-ship. We were five weeks reaching New York (this was in 1848). The smell of the soup the German emigrants cooked at the galley-fire was most tantalizing. (In those days, emigrants had to carry their own provisions and to cook the same.) If I remember rightly, this German ship-soup was made with smoked sausage, dried beans, noodles, onions, garlic, rye-bread, and condiments. I am not certain but that sauerkraut was likewise one of the ingredients; but, if not, it ought to have been, on account of its healthful properties. [Sauerkraut, i. e., pickled cabbage never is cooked in soup; but, the fresh cabbage is, often; not only

by the Germans but also by the French whose culinary art is justly appreciated. —ED.]

Count Rumford's cooking of the ingredients named was conducted as follows: "The water and the pearl-barley were first put together in the boiler and made to boil, the peas were then added, and the boiling continued over a gentle fire for about two hours, then the rest of the ingredients were added and the boiling continued for another two hours, stirring frequently; then the vinegar and salt were added. When cooked, the soup was served with cuttings of bread." (I think a fireless cooker would give better results.) At first, Count Rumford had to superintend the cooking himself, owing to the inveterate kitchen superstition concerning simmering and boiling—the belief that anything boiling rapidly is hotter than when it simmers and, therefore, is cooking more quickly, this impelling the nonscientific cook to shorten the tedious three-hour process by fast boiling. As a matter of fact, this boiling drives the heated water from below, bakes the lower stratum of the soup, and spoils the whole.

The ordinary cook, were she "at the Strappado, or all the racks in the world," would not keep anything barely boiling for three hours, with, to her, no visible result. According to her position and superlative experience, the mess is cooked sufficiently in one-third of the time, as soon as the peas are softened. "She don't and she won't, and she can't and she sha'n't" understand such cooking. "When it's done it's done, and there's an end to it; and what more do you want?" Hence, the failure of many attempts to introduce any advanced processes in cooking. I will make one exception to this, namely, in respect to the fireless cooker. This has seemed to have taken a hold on public favor (though, not so much because it is a better cooking process, but, because it saves much trouble.) After partially cooking the food, one can place it in the fireless cooker and leave it there for many hours.

To revert to our theme. The weight of each portion of the soup and bread served to each person was 19 ounces; the solid matter contained 6 ounces; and Rumford states that this "is quite sufficient to make a good meal for a strong, healthy person, as abundantly proved by long experience." He insists again and again upon the necessity of the three-hours' cooking, and I am equally (if not more so) convinced of its necessity. I am convinced that six-hours' cooking will result in more nutrition than will three-hours' cooking and leave less residue to be excreted. He further states that the bread to be eaten with the soup should not be cooked. There is reason for this, and the reason has been urged by Fletcher, and at the present day it is called Fletcherism.

A. T. CUZNER.

Gilmore, Fla.

LETTERS FROM FRANCE—IX

[*Continued from April issue, page 312.*]

After a poem by M. Jean Richepin, a tribute to Great Britain, which was recited by the author, Lord Derby, the British Ambassador to France, spoke. He first thanked those who had spoken, especially M. Deschanel, who had presented such a vivid picture of what Great Britain had done, and those who had organized the meeting, and then gave a brief résumé of what the British Navy and Army had accomplished, stating the position of Great Britain at the beginning of the war and the methods taken to make her a great military as well as maritime power. He commented upon the German sneers at the "contemptible little British army", and referred to its then having largely a volunteer army. He concluded by saying that Great Britain had done all in her power to place all its resources into the scales.

He also alluded to the present alliance between America, France, and Great Britain, saying that, at one time or another, these nations had fought each other, and mentioning incidents connected with the American War of Independence, adding that, since America had come into this war, the British loved the Americans probably more than the Americans loved the British, and that all past differences between any of the present Allies had been forgotten.

Lord Derby begged all to remember that the war was not over and that there must be no relaxation of efforts until the menace of Germany had disappeared from this world and until the reparation for the damage done had been exacted and punishment inflicted for illegal acts. He concluded by making an appeal that the alli-

ance of war between Great Britain, France, and America be continued, when final peace comes, as an alliance of peace.

An elaborate tea was served at the buffet in the salon, while the Coldstream Guards played in the garden and prewar days were recalled. Marshal and Mme. Joffre were present, the Marshal receiving cheers whenever his name was mentioned by the speakers.

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Although the number of deaths from influenza in the Paris hospitals still is considerable—being 242 on Monday and 193 on Tuesday, according to the *Temps*—more patients are being discharged as cured than was the experience last week, and the proportion of bad cases is smaller. It still, however, is highly necessary for the public to observe the precautionary measures already prescribed. [This letter was written December 20, 1918.—ED.]

In view of the strain on civilian medical men, the Army has placed the services of 17 doctors at the disposal of the Paris public. They will be stationed at various police-stations and firemen's-barracks, from 10 p. m. to 7 a. m. Should an urgent case of influenza show itself at night, application should be made at the nearest police-station for one of these doctors. Motor cars for the removal of patients to hospital and cyclists, to bring medicaments from the pharmacists, also are now provided at the police-stations.

Arrangements have been made to supply quinine and aspirin to pharmacists that still are short of these drugs, but of which the stocks in France are quite sufficient for all requirements.

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Lieutenant Henry E. Wise, of Long Branch, New Jersey, Red Cross man in charge of Franco-American Canteen No. 1, has received a second citation, carrying with it the Croix de Guerre.

Lieutenant Wise's first citation was received only a few weeks ago from the officer commanding the first Battalion of Chasseurs à Pied. His latest citation comes from the First Brigade of Chasseurs Tcheco-Slovaques and reads as follows:

"For the bravery and devotion shown by him during the period of heavy fighting from the 18th to 24th of October, 1918, assuring, under bombardment, the distribution of hot drinks to the wounded and to the Chasseurs of the Bridge and also for showing the greatest scorn of danger."

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A report on the amount of work done by the American Fund for the French Wounded during the month of September shows that 1,549 cases were received from America, 1,357 cases and bales were despatched 540,351 surgical dressings and 79,095 hospitals-articles were sent to 270 hospitals. The organization is greatly in need of sheets, square pillow-cases, towels, handkerchiefs, day-shirts and night-shirts. These and all other linen and cotton supplies are practically unattainable in France, hence, they are urgently called for from America.

B. SHERWOOD-DUNN.

Paris, France.

THE PHYSICIAN AND THE SALVATION ARMY

Is the physician a member of the Salvation Army? Doubtless a perusal of the records would reveal many individuals holding such membership; but, there exists, between the Salvation Army and the great collective body of physicians, a close bond of kindred ideals, which warrants the answer to the foregoing question being an emphatic "Yes!"

The physician and the Salvationist serve shoulder to shoulder in every community where the Salvation Army has a corps or even but a "soldier" member. The poor are ever with us, and, who will gainsay that often the hurry-call to the slums, coming late at night, offers even the suggestion of payment for services rendered. Is not that call, in many, many instances, accepted as a labor of love? And, returning home after a desperate fight at the bedside of some battered wreck or half-starved child, does not the warming glow of satisfaction of having been able to aid make less gray the dawn?

As the physician stands ever ready to hear the call of the sick poor, so does the Salvation Army stand equally responsive to the anguished cry that is ever rising from the slums. "Help us, give us food for our spiritual and physical beings" echoes and reechoes from coast to coast.

For more than fifty years, the Salvation Army has waged relentless warfare upon poverty and vice—the menacing aids to disease. Beginning in the slums of Lon-

don, the movement has extended, until it now is firmly established in sixty-one countries. The fight has been a bitter one, and even now it would appear as if the battle had just begun.

Emerging from its work with the troops overseas, the Salvation Army now faces a greater responsibility. Popular almost beyond belief, when one considers the open opposition in its early days, the organization has determined to double its efficiency. Only by making one intensive appeal, can that new program be assured and insured for the coming year. The answer is, the Salvation Army Home Service Fund Campaign for $13,000,000, that extends through the week of May 19-26.

The Salvation Army goes before the public of the United States confidently, because it has the confidence of the people. There is no question in the mind of the average man as to how its money has been spent in the past. He knows in a general way and rests content. With this tremendous appeal for funds going out, it is well to detail the manner of the spending of the money.

The free clinics of the Salvation Army are known to many physicians. Probably it is not generally known among the profession that the Salvation Army has long since established an institution unique in the annals of human enterprise in the shadow-lands of throbbing kaleidoscopic New York. Its official designation is The Salvation Army Women's Home and Hospital.

Here, each year, a thousand—and oftentimes many more—women are reclaimed from the refuse heap of humanity and sent back into the world. Here the wives of poor men find tender care and expert attention. Here the disillusioned girl with her secret sorrow finds spiritual as well as physical care. Here her baby may come into the world with every advantage that is the portion of the offspring of more fortunate women.

Books—many of them—could be written around the incidents that transpire there daily. Rich in moral and freighted with pathos would they be. At first, the hospital consisted of but one building, and that was heavily mortgaged. In 1909, a campaign for funds resulted in the liquidating of most of the debt, and a second building was purchased. Then came a friend who prefers to remain unnamed. His gifts totaled nearly $120,000, and a third building was added. The buildings were reconstructed, and the result is, a splendidly equipped hospital, two operating-rooms that afford every surgical convenience and necessary appliance. As a factor in the regeneration of broken womanhood, it is not to be excelled in the entire city of New York. The buildings are located at 316 East Fifteenth Street. Dr. N. Gilbert Seymour heads a splendid staff of physicians and surgeons, who give without reserve of their best efforts in the service.

E. M. Clary.

New York, N. Y.

THE NONVENEREAL CONTRACTION OF GONORRHEA

I read, in the March issue of The American Journal of Clinical Medicine, with considerable interest and complete assent, Doctor Lydston's note and also your editorial on the possibility of the nonvenereal contraction of gonorrhea. I have been teaching that possibility for many years and I am glad to see that eminent urologists and medical-journal editors are coming around to my viewpoint.

In my textbook, "The Treatment of Gonorrhea," the first edition of which appeared in 1915, I clearly maintained the possibility of such nonvenereal infection. With your permission, I will quote a few sentences on that topic under the head: "The Treatment of Gonorrhea and Its Complications in Men and Women for the General Practitioner" (p. 21):

"The infection takes place almost exclusively during sexual intercourse. But, note that I said *almost*. I do not deny the possibility of nonvenereal infection, from soiled linen or infected instruments; and, it will not do to sneer at the possibility of infection *from a bathtub or the seat of a watercloset.*"

As I stated there, I once watched an acutely gonorrheal patient go into a privy. When he got up, there was about half a teaspoonful of thick creamy pus on the seat, at the point touched by the meatus. A person sitting down on that seat within an hour or two would be very likely to get some of the pus transferred to his urethra and to contract gonorrheal urethritis.

That gonorrheal vulvovaginitis in girls and in women is very often of nonvenereal origin, goes without saying. Anybody who

has had any practice in this line can testify to that.

That the possibility of nonvenereal infection with venereal disease is now becoming fully recognized is seen from the fact that many institutions and public places in various countries have made it obligatory to use the U-shaped toilet seat, the front of the seat being cut away. It thus becomes impossible for either the male or the female genitals to come in contact with the seat.

This brings up the whole question of the relationship of the physician to the statements of his patient. Too long have we been in the habit of discrediting or sneering at a patient's statements when giving his etiology or describing his symptomatology. Whenever his statements ran counter to the orthodox textbook-teaching, the patient was, *prima facie*, assumed to be a liar. It did not come into the physician's head that it was possible that the textbook either was wrong or incomplete and that the patient was telling the truth. For many centuries, the medical profession used to repeat, as if it were something particularly smart, *"Omnis lueticus mendax"*—every syphilitic is a liar. And this not only before the possibility of syphilis insontium was recognized, but, long afterward. And many a syphilitic man or woman that swore on his or her honor, that he or she had had no extra-marital relations were treated with incredulous contempt and audibly or silently branded as liars.

It is time that there were a radical change in the attitude of physicians toward the statements of their patients. I will not deny that it is possible that now and then a timid or hypocritical man (or woman) will lie to his physician—particularly if he is from the same town and knows him well—as to the etiology of his trouble. But, in the vast majority of cases patients that come to their doctors want to get well and, so, tell the truth; for, they often fear that, by misleading the doctor as to the manner of the contraction of the disease, they will mislead him in the method of treatment. Personally, I can not think of any case in which the patient, male or female, ever tried to mislead me as to the manner of his, or her, contraction either of gonorrhea or of syphilis.

Even when suffering from the habit of masturbation or from some sexual perversion, conditions of which they are much more ashamed than of gonorrhea or syphilis, I find that they always give me a truthful history. They may hesitate somewhat at the beginning, but, as soon as they are put at their ease, they speak of their conditions as frankly as they do in telling of their suffering from headache or rheumatism or dyspepsia.

W. J. Robinson.

New York City.

THE ROLE OF THE PFEIFFER BACILLUS IN INFLUENZA

In reply to your request in the March issue of your journal, and as one of your readers, I venture to give my belief as to the importance of the bacillus in influenza. To my mind, when the socalled Pfeiffer bacillus is present, it simply corroborates the diagnosis. Yet, it may be found present in other diseases.

Is it the cause of influenza? I do not believe that it is. We find it not infrequently in association with certain symptoms, and, when we do, we say that the patient has influenza. When we do not find it, we designate the affection, as a rule, a simple cold or a bronchial attack.

In my estimation, the bacillus is not the true primary cause of disease, even when present. It, rather, is the scavenger, or, the resultant of disease. Again, it simply is the bearer of the influenza-poison. What this poison is, we do not know. I can not explain to myself, satisfactorily, how a living organism can travel and manifest itself the way that influenza does, over very wide areas of country, distinctly separated, in such a very short period of time or, indeed, show itself simultaneously with its appearance elsewhere, and when there could have been no possible human transport or communication. There still is something absolutely undiscovered in the causation of influenza. What it is, precisely, we do not know now any more than it was known centuries ago.

As I believe, essentially, the cause of the rise, duration, and fall of epidemic influenza must be looked for in some obscure atmospheric changes. Are they hygrometric, barometric or chemical? I do not know. Here, the germ-theory of disease fails and must be supplemented both in theory and practice.

As to the direct contagion of influenza from person to person? I believe in it only

to a slight degree. In time of an epidemic, if an individual is very susceptible, he will, probably, contract the disease, no matter how many precautions he carefully observes. If he is moderately susceptible, he is more likely to contract it if he is in close frequent contact with an influenza-patient. If he is immune, he will not get influenza, even if he is in constant service of the affected patient.

What does immunity depend upon? That, too, we do not know. We may be immune at one time and the immunity may last quite a long while, or even permanently. But, also, it is short-lived. People that are ailing or timorous do get influenza, it is true. But, do they contract it more frequently than do those in good health? We often affirm this or at least we think so. Still, statements or thoughts do not make facts.

As to statistics? Few are reliable. Taken from hospitals, surely, they are not. Taken from one's own experience, they are relatively limited and, always, personal. We all judge, largely, by what we have seen and practiced, although, again, our usage is simply individual and makes contracted mental views, unless broadened by thoughtful appreciation of the careful work of others.

BEVERLEY ROBINSON.

New York City.

SIGNIFICANCE OF BLOOD IN THE URINE OF INFLUENZA-PATIENTS

I notice, on page 220 of the March number, a reference to the significance of blood in the urine in influenza, and will say that I had only one such case complicated with bronchopneumonia, the patient making a satisfactory recovery. I thought but lightly of the bad significance of this occurrence, in influenza until I read Doctor Crocket's letter. It is a doubtful hemoglobinuria and when I pushed my echinacea, it cleared with the additional use of a little potassium bicarbonate as a diuretic.

By the way, I had a Negro shot in the region of the kidney with "blood in the urine" and I gave echinacea as a prophylactic, and the urine cleared promptly. I thought nothing about the relation of the echinacea to the disappearance of the blood, but, in a few days, the echinacea having given out, the hemorrhage reappeared and I immediately resumed the drug. The first 15-minim dose of specific tincture of echinacea cleared up the urine, lastingly, with a continuation of the echinacea. You may take this for what it's worth.

I have a specimen of influenza urine, as brought to me in the original bottle. It has not cleared and has scarcely any sediment; it is of a deep prune juice color.

I gave to my influenza patient calcium sulphide and iodized calcium to a fare-you-well. He ran a temperature of 104° to 105° F. for 8 or 10 days, but, he is still kicking.

What is "flu" but, sepsis, autotoxemia, or sapremia, and a consequent anemia?

A. L. NASON.

Darling, Miss.

[The relation of echinacea to the disappearance of blood in the urine is very interesting, especially in the case of the Negro where the hematuria was traumatic. That suggests an action upon the real mechanism that might be investigated to great advantage.

Doctor Nason suggests that influenza is merely sepsis, autotoxemia, or sapremia, and a consequent anemia. This may be true to a certain extent, although not primarily so. Sepsis, or, better, septicemia, is due to the presence in the blood of pathogenic microorganisms and to the action of their toxic products, while the sapremia is the presence in the blood of the disintegration products of nonpathogenic microorganisms. Autotoxemia, on the other hand, is a term usually applied to the intoxication of intestinal origin, that is, to the absorption of intermediary products of metabolism which are toxic. We have, therefore, three possible conditions suggested by Doctor Nason that might be responsible for an anemia which, however, by no means invariably is a symptom of influenza.

Whatever influenza may be, from the viewpoint of the bacteriologist, it undoubtedly first is a catarrhal or inflammatory condition of the upper respiratory passages which may or may not involve the lung tissue or the bronchial tubes. Whether or not the various pathogenic organisms that are found in the expectorations are primary, is not relevant for our present point. Certainly, they are present and develop their deleterious action, some of them frequently being found in the blood in which case there is always, of course, septicemia. In

the ordinary cases of influenza, however, that is to say, the uncomplicated "three days' fever", the symptoms are not sufficiently serious to warrant the assumption of a septicemia or of sapremia.—ED.]

OBSERVATIONS OF A COUNTRY DOCTOR ON INFLUENZA

I have read with interest the various articles on influenza published in this journal and feel prompted to add some of my own conclusions.

I practice in a little country town in eastern Washington, with a population of about twelve hundred people. There have occurred there 378 cases of influenza from the first of October last to the present writing, thus approximating one-third of the entire population. From these cases, ranging from very mild to extremely severe ones, I have drawn a number of conclusions.

The epidemic did not originate in the village, but, was brought in from outside points. The first cases were mild ones. As it was successively transmitted from one patient to another, those contracting it later had it in the most severe form. Fright seemed to play quite an important role as to whether a case progressed satisfactorily or not. Those patients of even temperament as a rule had it mildly, whereas in those of nervous temperament it was noticeably more severe. The duration of these cases was from four to six days up to three weeks. In four cases, there developed the clinical evidences of bronchopneumonia. There was 1 case of cystopyelitis, and 2 cases of empyema. In all, 5 patients succumbed to the disease during the epidemic.

The symptoms presented were the usual ones of influenza, namely: Intense prostration, fever, bodily aches, pains, soreness and more or less hacking cough. There were departures in some cases, not all of the symptoms named being present in any given case. The unusual prostration was present in virtually every instance, but, was worse in some than in others. Some patients had extremely high temperatures, while in others it was as much as 3 and 4 degrees below normal. In those whose temperature was below normal the prostration was more marked. The symptoms presented in most of the ordinary cases were: pulse, near 100; temperature, up near to 101° or 102° F.; respirations, 25 to 40. The muscles were so sore that patients would complain bitterly when being handled or moved, saying that, if they had been beaten with a club, they would not be any sorer.

It was found that, if the patients went to bed promptly when attacked, the disease would run a milder course, other conditions being favorable. The systematic requirements being, a warmed well-ventilated room, plenty of light, and quiet. All were instructed not to take into the stomach anything cold, rather, that everything drunken or eaten should be hot. For, the observation was that the influenza-patient progressed more favorably and did better with heat inside and out, rather than the reverse. It was observed even that when a patient drank cold water he soon began to vomit and that an intense gastritis immediately was set up, with the fever rising to an extraordinary degree. Also that, when the patient got up to attend to the calls of nature in a cold room, he always was longer in recovering. Moreover, if the room was dusty, the attack had a more stormy course; also, in dusty homes, every single one of the family would contract the disease quickly, whereas, if there was no dust, only one or two would contract the disease. Consequently, isolation of the patients was insisted upon, the expectoration to be collected on suitable rags or pieces of paper and burned before permitting drying to take place.

The treatment was based upon the individual having the disease, rather than against the disease, itself; the theory being, that it is a self-limited disease and that the patient must be safely tided over; that he should be protected, nourished, made comfortable, his elimination brought to the highest possible state of efficiency and his natural immunity increased to maximum. Thus each case was treated individually, the drugs used being acetylsalicylic acid, Dover's powder, acetanilid, capsicum, the glycerophosphates, and some suitable laxative. The acetylsalicylic acid was prescribed in moderately large doses, Dover's powder and acetanilid in small doses, and capsicum in very small doses. Virtually all patients were instructed to apply to the chest twice a day a mixture composed of equal parts of oil of turpentine and an animal fat, this to be covered with the regulation pneumonia-jacket. In

my judgment, this treatment has been productive of most satisfactory results.

The use of acetanilid seems to be censured by every writer; however, in my own hands, it has worked nicely as well as safely. I have never seen any depressing effects, such as blueness of lips or nails, nor any heart weakness after its use. On the contrary, it exerts a soothing effect, quieting nervousness and producing gentle perspiration. I have tried the various remedies alone and in combination, and see much better results from combinations of drugs, closely following the indications presented.

One observation stands out especially, and that is, that the patient must not be overdosed with anything. Smaller dosing, frequently repeated according to need, yields better results than will large doses far apart.

So far as I could see, no matter what treatment was instituted, fresh air was the most important item; for, no patient did well without it. Three of the deaths undoubtedly were caused from the lack of fresh air.

Virtually all of my patients had hemorrhage of some kind during some period of the course of the disease, and it was, by no means, confined to the lungs. Some 40 or 50 of the women and girls menstruated out of term. Males would bleed at the nose. Improvement ordinarily set in as soon as a heavy bleeding took place. Two patients vomited blood, whether or not the blood had been swallowed from the nosebleed, I do not know. Several instances of bleeding piles were observed, which, though, were thought to be a recrudescence of old troubles. Nevertheless, improvement rapidly followed in their cases.

In this series of cases, no serums were used at all. Previous experience with serum proved unsatisfactory, so, I considered it best to stick to the old line of treatment with which I was familiar. Further observations would indicate, in a general way, that, locally at least, the "scare" of the disease hurt more than the actual damage done by the disease itself.

As a matter of public health in a small country town, I do not think that any line of prevention is anywhere near as efficient in preventing the spread of the epidemic as is the personal isolation of each infected individual or family. In this village, it cost the taxpayers a thousand dollars a month while the schools were closed, and there was not one case that could be traced to the schools. The epidemic did not seem to affect the children as much as the mature adults. The schools were reopened while in several families in the village there were active cases; but, none of the children of these families were allowed to attend school until the sufferers were entirely cured so far as could be learned by ordinary observation. No new cases have appeared for now several weeks. The ban on gatherings did not control the epidemic locally so far as is known, and not until the *personal-isolation* system was adopted did the spread diminish.

I believe that the infection is microbic in origin and spread by means of expectoration from nose and throat, and that personal resistance (whatever that may mean) has more to do with the results of infection, so far as recovery is concerned, as well as immunity to the infection, than perhaps any other factor. It, therefore, is of special importance to keep this factor of immunity in the highest possible state of efficiency at all times.

I can not but point out the disastrous results incident to the effect on the minds of the people of this community, incident to the use of the term *"Spanish"* in connection with influenza, as also the abbreviation *"flu."*

"Spanish flu," as described in the daily press, frightened the people into a panic, the like of which, I believe I have not seen in the last twenty years. The disease has been harder to handle because of this scare. While it is perfectly proper to awaken careless people to an existing danger, yet, I do not think it is a bit worse to have them die of disease than it is to scare them to death by pure fright. Fortunately, no one died from fright here; still, it was a hard problem to handle the case when the patient was frightened out of good judgment before he got down with the disease. Another bad feature is, the lack of confidence, so far as the public is concerned, in the boards of health, who enforced these "bans", and which most assuredly did result in considerable financial loss, while, at least locally, it did not prevent the spread of the epidemic.

The greatest trouble that I experienced was, the lack of efficient cooperation of the public in helping to take care of, and

to nurse, the victims of the disease. Trained nurses could not be obtained, while the neighbors, friends, and relatives were afraid to go near those stricken. About the only help available were a few followers of the cult of Mrs. Eddy who were members of the local Red Cross. I wonder whether this deplorable situation did obtain in other quarters? I am not to be understood as favoring this cult; still, in all fairness, I do think that the public mind could have been directed in a way that would not have scared the people before they got the disease. These good ladies did carry a message of help, common sense, cheerfulness, and hope. So far as I know, they attended to all details of my suggested means of treatment, without prejudice. Can as much be said for the boards of health, public charities or other organized effort where such help ordinarily is looked for?

I am glad that the crest of the epidemic appears to have passed. There no doubt will occur a few sporadic cases off and on.

But, what about the future? Many of these patients are up and around, still, do not feel as well as formerly or as well as they should. They do not seem to recuperate as do patients from other acute diseases. They do not get strong and ruddy, do not gain flesh and strength. They are despondent in mind and have little ambition; are weak and nervous. Once more, what about the future? Will it be a fight on tuberculosis, neurasthenia, various forms of insanity, malnutrition, or other dire sequels? I do not believe that the end is yet, and the last chapter of the medical history of this epidemic is not yet written.

J. D.

———, Washington.

[This is a very interesting record of careful and intelligent observations. We are glad that the Doctor stressed the pernicious influence of fear. Personally, this writer is convinced that the fear engendered by scare-head newspaper write-ups and by the astonishing ukases issued by various boards of health contributed, in a not inconsiderable degree, to the spread of the epidemic; while the reverse had been intended. Physicians, whether individually or officially (as members of boards of health) have no right to scare people into illness; rather, they should comfort and reassure them without causing unreasonable alleged precautions to be taken. Ordinary common-sense care was quite sufficient in our observation to protect individuals against being attacked by influenza.—ED.]

THE MANAGEMENT OF PNEUMONIA

Dr. W. S. Cline, of Woodstock, Virginia, in his article in the February number of CLINICAL MEDICINE, (p. 135.) says that he can do more for his pneumonia-patients with 1-drop doses each of fluid extract of aconite and fluid extract of digitalis every three or four hours than with anything else he can give, besides frequent external applications to the whole chest, as given in his article. If he can, and he ought to know, well and good; but, I believe that "dosimetric trinity No. 1" (Abbott), containing aconitine, digitalin, and strychnine arsenate, given every half hour to one or two hours, according to fever-conditions, would give quicker and better results. For the general weakness in influenza, I believe that the addition of strychnine arsenate in the "trinity" granules is of great value.

In the first stage of pneumonia, aconite and digitalis and perhaps phenacetin or dosimetric trinity No. 1, and phenacetin or aspirin will do well, but, later, other medicines are needed. However, Doctor Cline does not state what he gives after the first stage, unless it is whisky. Since taking up the dosimetric method of treatment—I practiced Homeopathy from 1891 to 1915, principally—I have not given a drop of whisky to my patients. It has not seemed necessary, as I have met every condition of my patients nicely with alkaloidal medication. In the second stage of pneumonia, or, after the first day or so, other medicines should be added to the treatment first begun, such as iodized calcium, codeine, emetoid, apomorphine or bryonin, one or more of them as indicated. Of course, there are other medicines besides those above mentioned that will be called for in treating pneumonia.

My general treatment for pneumonia is as follows:

1. Laxatives and sometimes enemas, to clean out the alimentary canal.

2. Generally, dosimetric trinity No. 1 throughout the fever-period, every half

hour, if fever is high, until it is controlled, then every hour or two, until fever is gone.

3. For the first day or two, phenacetin or aspirin, 1 tablet every three or four hours.

4. For cough or special treatment of the lungs throughout the full course of the disease, my cough-mixture, as previously given. This cough-mixture has never failed me in controlling the diseased condition of the lungs in all the cases of pneumonia I have treated.

5. For pain, distress, and sleeplessness, a hyoscine-morphine-cactoid hypodermic or the modified form mostly given by mouth. Do not be afraid to give hyoscine-morphine-cactoid tablets, exercising reasonable care, and thus relieve your patients of much suffering and at the same time modify the disease. I know that relief from pain, distress, and insomnia, by using these tablets to effect, hastens recovery.

6. Make local applications to the chest —camphorated oil, glycerin paste, and so on—and hot packs, if the lungs are painful. Give some digestive tablet and triple arsenates with nuclein during convalescence.

G. A. Evenson.

Janesville, Iowa.

THE PATHOLOGY AND TREATMENT OF INFLUENZA

I am fully aware of the fact that a great deal has been written on the subject of influenza. Much has been stated and conjectured as to its etiology, pathology, and treatment. My aim is not, to enlighten the reader on the first, to elaborate on the second or be specific as to the third of these points; but, only to point out certain facts that have been impressed upon me in my work with this infection. I have no definite opinion to express as to the causative factor, as I am not a bacteriologist, but, from observation and reading, I am quite sure that the field for research is an open one.

The symptomatology of the disease is quite familiar to all, hence, needs no discussion; however, the physical findings constitute a basis for quite a bit of thought and deduction.

In my cases, numbering nearly 500, about 87 percent of the patients had a distinct tenderness on the right side opposite the articulation of the ninth rib, and a majority had hepatic enlargement. The urine was highly colored, contained traces of bile, and was loaded with phosphates before the fever had had time to give rise to them. A marked accentuation of the heart-sound in the pulmonary area persisted during the fever-period. Ninety-five percent of the patients, ranging in age from 11 to 25 years, presented bronchial breathing to the left, posteriorly; also, epistaxis and hemoptysis were a rule, especially if treatment was not instituted early. Tympanites and constipation were invariably present.

Taking into consideration the preceding facts and a few more that I will bring out further down, I allocate the pathology to the biliary system, primarily, and to the pulmonary system secondarily.

I will not attempt a hair-splitting decision as to which is involved, the liver-substance as a whole or just the biliary passages. But, of this I am sure, an inflammatory process does exist there; this being evidenced by fever, cough, epistaxis, hemoptysis, passive congestion of the lungs, accentuated pulmonary heart-sound, flatulence, constipation, bile in the urine, and a general toxemia. The passive congestion of the lungs is shown by the multiple hemorrhages, which have been attributed to the presence of the streptococcus hemolyticus, the lesions becoming multiple abscesses after their infection by the bacteria present in the air.

I have seen no case of lobar pneumonia or at least very, very few, but, in these, the condition was a much more grave one.

Treatment was instituted with the foregoing facts in mind, not thinking that as yet we have a specific for the condition. Elimination was my first aim, which was effected by means of calomel, blue mass, and podophyllin, followed by castor oil—and a very liberal dose at that. And, why these drugs? Calomel and blue mass as hepatic excitants, and podophyllin is for the bile; castor-oil, to sweep out the intestinal tract and to pave the way for intestinal asepsis. This medication was repeated every twenty-four hours until the tympanites was relieved; and this never was accomplished until there occurred the passage of a large amount of jelly-like mucus followd by a large bilious stool and of which latter the patient complained severe-

ly because of its causing excoriation. While serving in the hospital, I was impressed by the fact that, in infected gall-bladder cases, as long as the discharges were of clear, colorless gelatinous consistency, the fever persisted, and that, when bilious drainage set in, the fever would disappear. So, in my patients, after they passed this gelatinous substance in the stool, followed by bile, and accompanied by a burning, scorching sensation, their temperature came down to normal, the cough became less troublesome and grew moist, the sputum was freed from bright-red blood, the tongue became clean, appetite returned, heart-sounds were normal, tympanites disappeared, and the toxemia disappeared.

Not having a specific at hand, the next thing to do was, to build up barriers to guard against further bacterial invasion. Bacterins or phylacogens were given, to increase leukocytosis and especially to fortify against lung invasion, because of the receptive field present. These remedies were repeated as deemed necessary, no regard being paid to the reaction. Iodized calcium, 2-grain tablets, and one tablet of the combined sulphocarbolates, crushed in warm water, were administered every two hours. Why? Iodized calcium splits into calcium and iodine when taken into the body. The calcium is a cell-tonic, especially a food for the heart-muscle—and only a very small number of my patients received heart-stimulants. Iodine, being largely exhaled, becomes a lung-antiseptic. Never before was the cleanup and keep-clean measure more needed than in influenza; and my belief as to its pathology demands intestinal antiseptics. And the combined sulphocarbolates are a real intestinal antiseptic.

It is a fact that a great number of my patients contracted bronchopneumonia, or, as I am inclined to believe, multiple pulmonary abscesses resulting from the infected multiple hemorrhages, the latter produced by the passive congestion of the lungs. Whenever the socalled pneumonia-symptoms occurred—and this usually was on the fifth to seventh day—a "proteogen" was given. And I wish to state here that I will not try to explain its mode of action. It acts, and does so better, than any other remedy that I have ever tried. The proteogen was given every twelve to twenty-four hours, as symptoms indicated. The most pleasant results were experienced from its use; but, at no time was the treatment outlined above relinquished, the proteogen just being given in addition.

The diet is of great importance. The patients kept on a diet free from starch progressed very much more rapidly than those partaking of it. Tympanites always was less in a starch-free diet.

Complications were: Otitis media, pleurisy with effusion, delirium tremens, and enormous pulmonary abscess. These conditions necessitated individual treatment. Otitis media, after proper surgical measures, improved very rapidly under chlorazene. Pleurisy with effusion yielded to mercury bichloride internally and the continued use of the proteogen. Pulmonary abscess was treated symptomatically, and, under the continued use of the proteogen, recovery was complete.

Six pregnancies, ranging from eight weeks to eight months, were encountered. All these women recovered from the influenza. One has been delivered since then, and the babe and mother are doing finely.

A few conclusions: The hepatic system is the site of the pathologic condition, primarily; the pulmonary system, secondarily. There is no specific for the disease so far demonstrated.

Rational treatment: Guard against cardiac weakness, make an effort to prevent pulmonary infection, clean up and keep clean. Iodized calcium covers the first two indications, and while the sulphocarbolates insure the keeping clean, calomel, blue mass, and podophyllin, and castor-oil make sure of a thorough cleanup.

Sodium salicylate has been the cause of abortions in some instances, I am sure.

I hope that this communication will elicit very wide discussion and be a means of helping solve the riddle of this epidemic influenza. I will say, in passing, that I have not had one death from the disease. One patient died from cardiac failure after the symptoms had passed; but, he had been a sufferer from myocarditis for a long time.

G. C. GILFILLEN.

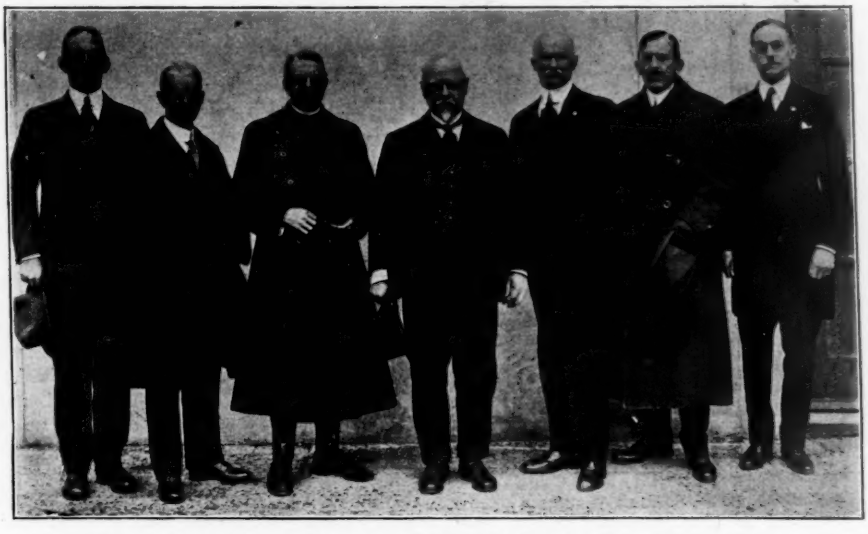
Russellville, Ohio.

THE WORK OF THE RED CROSS GOES ON

The great humanitarian trend that has developed as an aftermath of the horrors

of the war has awakened the peoples of all countries to the immediate need for developing these humanitarian efforts along the broadest lines.

The amazing percentage of men rejected for military service because of physical conditions that might easily have been prevented; the pitiful wastage of manhood and womanhood through under-nourished and under-developed childhood; the terrible mortality consequent on epidemics which, if not actually preventable would at least have been more controllable if humanity at large had a better understanding of hygiene and sanitation, all these



Some of the American Members of the Public Health Conference at Cannes, France.

things have been brought so forcibly before the minds of thinking people that remedial efforts are not only necessary but imperative.

To turn to the Red Cross as a medium through whom this widespread educational campaign may be carried on all over the globe, is natural. Closely in touch with every phase of relief, whether it be war, disaster, epidemic or the personal contact with individuals maintained through the special branches of its work, the Red Cross is peculiarly well fitted to aid in this international service.

Recently there was in session, at Cannes, France, a conference attended by some of the foremost specialists of the medical and sanitary professions of Great Britain, France, Italy, Japan and of the United States.

The problem which these men discussed, is one of the most serious ever faced by the Red Cross, and deals with the organization of an International Council of Bureau of Hygiene and Public Health which will consider the work to be undertaken in connection with the prevention of epidemic disease, tuberculosis, venereal disease and child welfare. The results of this conference will be submitted to the International Conference of Red Cross Societies to be held at Geneva, Switzerland, thirty days after peace is officially declared. This Red Cross Committee will be composed of representatives from the Red Cross Societies of the five countries represented at Cannes and Henry P. Davison, formerly Chairman of the War Council of the American Red Cross, will act as Chairman.

The outgrowth of this congress will be a permanent working organization, with headquarters in Geneva, whose personnel will be made up of experts who will keep in touch with the developments throughout the world of the various matters in which the Red Cross is interested and through whom each Red Cross organization will be kept in touch with the march of human events. Not only will the peace activities of the Red Cross be directed toward the

relief of human suffering and its prevention, but an effort will be made to arouse all peoples to a sense of their responsibility for the welfare of their fellow beings.

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First Aid at the Fighting Front.

HOSPITAL TRAIN MAKES FIRST TRANSCONTINENTAL TRIP

For the first time in the history of the army a complete hospital train made the entire transcontinental trip from New York City to Camp Kearney, Cal., during the last week in March. It carried 136 sick and wounded overseas fighters who had been evacuated from Debarkation Hospital No. 3 in the old Greenhut Building, Debarkation Hospital No. 5 in the old Grand Central Palace, New York City, and the Base Hospital at Camp Merritt, N. J. The patients were all men from the far West who were being removed to the hospital nearest their home towns.

The men were accompanied virtually the whole length of the trip by Red Cross workers who were on duty in relays. At each stop a pair of Red Cross women boarded the train and rode to the next station, where they were relieved by their Red Cross sisters in that town, who took up the work where they left off. This arrangement worked perfectly.

The train was in charge of the Medical Department of the United States Army and, in addition to the invalids, carried a large escort detachment of enlisted men of the Medical Department. Towns and cities along the route were notified of the departure of the hospital train and the expected hour of its arrival and the boys received a riotous welcome at every stop. In like manner, every Red Cross auxiliary was on hand to regale the heroes with good things to eat, drink, and smoke.

CONSTIPATION: ITS CAUSES AND TREATMENT

I am aware that the subject chosen for consideration is one that is a commonplace one and has been thrashed out by authors great and authors small; yet, I doubt whether all the grains have as yet been separated from the chaff. If, in active medical practice, there is one condition calling for the physician's aid more often than anything else, it is constipation. How often has it not been said that constipation is the great disease of civilization and, in fact, one of the greatest drawbacks to the rapid advancement of the arts and sciences, and that those who suffer from this diseased condition are sluggish and dull and can not do the brain-work or stand up to the mental fatigue sustained by those not so afflicted.

The causes of constipation are as numerous as are its untoward consequences, since it may be owing to, or the result of, a wide range of abnormal conditions.

Constipation may be consequent upon diseased meninges of the cerebrospinal centers; on pressure exerted by various tumors of the abdominal cavity or on a variety of diseases of the stomach and liver. In fact, what morbid condition may not determine constipation? Even the mere neglect to go to stool whenever nature calls will soon lead to a pronounced constipation, with all its dire consequences. It often is associated with obstruction of the pyloric end of the stomach, with a tonic dyspepsia, with jaundice, or with pregnancy or with old-age. Also rapid eating or the eating of undigestible food may predispose to it.

Someone has said that one-half of the American people are suffering from a

stuffed gut, this sooner or later leading to dilatation and sagging of the stomach and portions of the intestinal tract, which, in time, eventually will produce constipation. In fact, anything that causes an abnormal delay of the intestinal contents in their onward passage through a portion or portions of the gastrointestinal tract will, most certainly, end in constipation, if not betimes corrected.

As already stated, the results produced by constipation or intestinal stasis are so numerous that no one can be in prime health and be able to give to society the best that is in him while suffering from constipation.

Very recently, one of our ablest physicians said, "Careful clinical observation is convincing me, day by day, that the question of intestinal stasis and its consequent morbidity is one of the most important subjects before the medical profession at this time."

If constipation from whatever cause be neglected, the sensitive nerve-elements supplying the mucous membrane of the bowel soon are obtunded and gradually become blunted, while the muscular coats of the colon soon undergo atrophic changes. The chain of glands along the gut quickly become hypertrophied and fail to pour out their secretions, as they do in health, while the peristaltic movements grow weak and ineffective.

The onward movement of the intestinal contents grows more and more sluggish and, unless prompt and effective treatment is brought to bear upon the condition, the patient will find himself or herself the victim of constipation that will to the utmost tax the skill of his physician to correct. I know of no diseased condition affecting humanity, that is so prone to produce autotoxemia, or self-intoxication, as is constipation, because, in stasis, the intestinal canal becomes a veritable hotbed for the development and multiplication of pathogenic germs, while the conditions here are present for the rapid absorption of their poisonous toxins.

It is not possible, in a short paper like this one, to enumerate all the conditions that may arise from constipation, but, they are many and far-reaching. If there is any one thing that has been impressed upon my mind more forcibly than any other (in twenty years of practice) in attempts to prevent this disease or to aid in correcting it, it is, that we must keep the alimentary canal clean. *"Clean out and keep clean"* is a motto that never should be lost sight of. In all diseased conditions, there obtains a sympathetic relationship between the various organs, however remote from the actual site of the disease. This is why so many people afflicted with constipation also suffer from headache, vertigo and neuralgias. We also find these patients suffering from torpid liver, indigestion, palpitation, and often from a reflex cough. When the bowels are thoroughly cleared, all the foregoing symptoms are relieved, the engorged portal circulation is freed; the processes of absorption and assimilation once more become normal; the constant introduction of toxic substances into the general circulations comes to a halt, and many nervous phenomena right themselves.

This would lead us to believe, indeed, clinical evidences bears us out, that, by curing our patients of constipation and putting the intestinal tract into a normal condition, this will, of itself, cure them of many ills now complained of. This is especially true when the constipation is the cause and not the result of the diseased condition. I know of no disease in which proper treatment affords the patient so much good as that of constipation.

In treating this condition, we should not leave a stone unturned in our search for discovering its cause, and to remove that, if it be possible.

In treating this diseased condition, the physician is not handicapped by the lack of remedies. They are numerous, indeed, however, the test comes in knowing how to select and to apply them in each individual case. It is not hard to find remedies that will move the bowel, but, to find one that will overcome the tendency to constipation and one that can be gradually withdrawn, leaving the bowel in a normal healthy state, is not so easy.

The tendency in the case of most laxative remedies is, for them to lose their initial effect, so that the size of the dose has to be increased rather than diminished. This is especially true when the medicinal treatment is not reinforced by diet, exercise, massage, and a regular habit of going to stool at a certain hour each day. Many of the remedies are recommended to be

used singly, but, many more are prescribed in combination. Just how they are to be used depends upon the cause of the constipation, if that be found, or upon what part of the intestinal tract we wish to exert an influence.

Purgative remedies are but rarely indicated, except in beginning treatment in a certain class of patients. Those that are very heavy eaters and who are more or less sedentary in their habits and have suffered from constipation for a long time need brisk purgation. In other words, when the physician believes the alimentary tract is loaded with fecal matter, he should prescribe sufficient purgatives so as thoroughly to cleanse it. I have obtained excellent results in these cases from a combination of calomel, podophyllin, and bilein. These granules are given every hour until the bowels have moved a number of times, then finish up with a laxative saline.

Patients who suffer from an atonic condition of the alimentary track, are best treated by prescribing two tablets containing berberine and juglandoid before meals; hydrastoid, 1-6 grain after meals, and 3 to 6 of Waugh's anticonstipation granules at bedtime. Patients who are sallow in color, conjunctivæ tinged yellow, and complaining of a bitter taste upon rising are best treated by administering juglandoid before meals with bilein and chionanthoid after meals. If the patient is active, enjoying outdoor exercise and is regular in habits, this may be all that is necessary. Should the patient be living a very sedentary life, you will be compelled to reinforce the above measures by giving podophyllin, gr. 1-16 and berberine hydrochloride, gr. 1-6, three times daily between meals and at bedtime. In these cases, it is almost impossible to cure the constipation, unless the patients are made to feel the responsibility that is theirs and agree to aid the doctor by changing their habits.

If constipation is principally in the lower bowel and the excrements consist largely of hard balls, then the contents higher up probably are normal. In that case, add aloin to the course. Many of these patients are either cured or greatly benefited by stretching the sphincter ani.

In cases that defy every kind of treatment calculated to break up the condition, I have found liquid paraffin, to which fluid extract of cascara has been added, one of the most efficient remedies. This is especially true in those cases requiring a remedy for a long time. The amount of cascara can be increased or decreased according to the indications. Do not fail to explain to those that are constipated the importance of a daily evacuation and that it is possible to train the bowel to send its contents into the rectum at a stated time daily, for, if this periodicity can be secured, they have a powerful aid toward regular and complete evacuation. Dilatation of the intestine from atony is, perhaps, the commonest cause of constipation. This atony exists in various degrees, depending upon the cause that produced it and the length of time the patient has been constipated. The nerve-filaments supplying the gut may be only slightly benumbed or, in far-advanced cases, they may be paralyzed. This paralysis may, and does, extend to the centers in the spinal cord presiding over peristalsis and defecation. In treating cases in which this condition is advanced, belladonna or strychnine should be administered in order to aid in restoring the nerve-tone. Nux vomica is another useful remedy in this direction. Electricity certainly should be tried in stubborn cases. In that peculiar kind of constipation seen in persons suffering from catarrh of the small intestines, hydrastoid should not be forgotten as one of our most reliable remedies.

Constipation in children and delicate females that suffer from "biliousness" and flatulence is well treated with sulphur laxative granules, one to three to be taken one hour before meals. Should this dose fail to act satisfactorily, then repeat one every hour, for two or three doses, before going to bed. according to the age and condition of the patient.

C. M. CANAN.

Orkney Springs, Va.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

Opportunity: As Exemplified in Ole Hanson.

THE *Minneapolis Tribune* sums up the career of Mayor Ole Hanson, who settled the recent strike at Seattle, as follows:

"Fifteen years ago, Ole Hanson came into Seattle on foot. He had walked from Butte, not from choice, but, from necessity. In Butte, he had injured his spine. Doctors despaired of his recovery; but, Ole did not. He bought himself a prairie-schooner outfit, to which he rigged a harness that held him upright and allowed him to walk behind; with his wife on the driver's seat and his children inside, Ole trudged across two mountain ranges to Seattle. He arrived in Seattle late one afternoon. Coming through one of the residence streets known as Beacon Hill, he stopped in front of a little grocery-store to buy some food. That night, he was the owner of the store, which he opened next morning. He had not yet entered the business-district.

"He sold the grocery-store and opened a real-estate office, and, despite the fact that he has always been in politics, his business was always a big success. He is the best advertisement-writer in Seattle, and no man who ever bought a piece of property of him was forced to keep it if dissatisfied. The buyer can always have his money back.

"When he first came to Seattle, Mayor Hanson was a Republican. In turn, he became a Progressive, and he toured the Middle West for Wilson in the last campaign, speaking in Minneapolis and elsewhere in Minnesota. Parties mean nothing to him.

"There are really two Ole Hansons: the one that talks and the one that acts. As a talker, he often is erratically radical; but, his actions always are rational. In the last mayoralty elections, he was voted for as the lesser evil by the conservative business-elements. Once in office, he began to do the things that other mayors had talked about for years. He is irrepressible and can not be abashed. He wanted the city to buy a power-site involving millions and at once ran into the capital-issues committee. He went to San Francisco and was rebuffed. Then he took the train for Washington and pulled the President's mind off the war long enough to get action.

"His energy is endless, his sense of the dramatic is high, his courage boundless, and, in the back of his hard head, there is a big fund of common sense, on which he draws in every emergency. And those that didn't know him intimately were astonished at the prompt manner in which he suppressed Seattle's little revolution."

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It is not too much to say that Ole Hanson, as a man, the mere equal of every other citizen, would be unrecognized among the millions of his fellow citizens, were he not conspicuous as the man who had the courage to "sit tight" and "stand pat" at Seattle when the city was threatened with Bolshevism.

His place today, the reputation he enjoys, as a result of the achievements attained, considered in the light of his relation to the public, have distinguished him as the exponent of principles that lie deep within the heart of every true American citizen.

The courage and independence of this man are superb. He said: "Protestant or Catholic, Jew or Gentile, all must stand equal before the law. To do more, would be special privilege; to do less, would be violating my sworn duty."

I am not certain just what Ole Hanson's politics are, and it is immaterial. In my opinion, his sentiments: "A man that won't leave his party for the good of the country should leave his country for the good of all parties," and, "Good government consists in making it easy to do right and hard to do wrong," should cause "every wise man to abhor and every good man to

condemn those who refuse equal justice to all the people."

America, in the past, spelt opportunity, and the career of Ole Hanson shows the value of opportunity to those that can perceive it.

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When I hear, as I occasionally do, a man bragging of his true Americanism, *because* he is the son of a revolutionary hero or a lineal descendant of a Puritan that came to America on the Mayflower, I am reminded of the blistering, although unconscious, satire uttered by the First great Democrat of all the earth. He, who, to plead the brotherhood of men, predicated the Fatherhood of God, when he said: "Think not to say within yourselves, 'We have Abraham to our Father,' for, I say unto you this, God is able of these stones to raise up children unto Abraham," and we must rejoice that this principle, as all principles must, holds good today.

If the indifference, the neglect, the ignorance or whatsoever defect of conduct and character on the part of four generations of the sons and daughters of revolutionary heroes have permitted conditions to arise in the republic that they established, that limit opportunity, nevertheless, the principles of social justice have power, out of the millions of alien earth transplanted here, to raise up those that should vindicate their truth.

If I were to select a text for a studied article of length, upon a subject near to me—and, I believe, of glowing interest to all thoughtful Americans—I should choose "Applied Patriotism" as the central thought. I should illustrate my meaning, in this connection, by a comparison of those cities in the republic that contain the greatest admixture of foreign stock with those containing the least, and I should show, by a tabulated result, that the civic virtues, political integrity, and moral worth of American cities are in direct ratio for the proportion of its foreign population.

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Aristocracy, the only aristocracy in America, is the aristocracy of great service. Opportunity, opportunity in America, the only opportunity of value, is, the opportunity to serve. And, in Ole Hanson, we have a fitting embodiment of all that is best in both.

It is a significant fact that, in all those whose names are first as the exponents of progressive political philosophy, endowed with distinguished capacity to serve, we find the recent admixture of European stock. And, there must be some underlying law in accordance with which the debt of Democracy to the frontier and the raw edge of things finds such expression.

With Hughes, of New York, son of a Welshman; the late Governor Johnson, son of a Scandinavian; and our President, the near, in descent, to the Englishmen; all showing the quick response of free opportunity upon a nature not yet immune to its advantages, we find the current chapter of the Drama of Democracy reaching back, through Lincoln, Jackson, Harrison, and Jefferson, to Washington in unbroken line of descent from the frontier; and it would almost seem that there were some alchemy in the uncontaminated air of that frontier-life.

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Patriotism, applied patriotism, love of country. It is not the green turf, beautiful though it be; not, the sweet air and sunshine that make up a country; the mountains, rivers, lakes do not constitute a country. A country is a people and a people's laws. We love our country and shall continue to love it and its institutions just so long as they are worthy to be loved.

Tiberius Gracchus, in curia and forum, defending the agrarian law, answered the attacks of those that represented, in that day, intrenched and fortified privilege, anticipating the utterance of Jesus, said: "The beasts have caves, but, the men that shed their blood for Rome have nothing but the air and light."

Love of country, respect for law does not ask Americans to love or support a patriotism that permits the establishment of laws and institutions that work injustice.

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If there should come a time when all the nations of the earth shall form one vast confederacy, in which due representation shall be given to each, "and the battle-flags are furled in the parliament of nations, the federation of the world"—a fact by no means so fanciful as when Tennyson voiced that thought, in view of what is transpiring in Paris today, it will be owing, as much as to any other single influence, to the ideals and to the efforts of such men as I have named. By any philosophic test, as the city is to the state, so is the

nation to the entire world. It is in the microcosm that cosmic problems may first be determined. The principles of justice underlying fundamentals of social order are not limited in their application to any single individual or family.

If the determination of social formulas were simply a matter of opinion and, by popular adoption, became, by that act, intrinsically just, the solution of the problems of the world-politics would be very simple. However, they are not matters of opinion; they are inexorable expressions of natural qualities, as fixed as the laws of chemistry or physics.

We are reminded of the competition between Alcamenes and Phidias in the application of tests to determine values, and that we may approach so closely to great figures as to lose the sense of proportion; but, whether it be upon a question of municipal, state, national or international social relations, Mr. Hanson has stated and, also, applied the universal standard of justice.

And, so, I honor Ole Hanson for the service he has rendered in the demonstration of the value of opportunity, in the fitting aristocracy of service to which he of right belongs, and in the future years of usefulness that I hope lie before him. As compatriots, we rejoice with him in the struggle that lies before us to secure and maintain, for future ages in this land, that wealth of opportunity of which his own career is a majestic exemplar.

JUST WHISTLE A BIT

JUST whistle a bit if the day be dark,
And the sky be overcast;
If mute be the voice of the piping lark,
Why, pipe your own small blast;
And it's wonderful how o'er the gray sky track
The truant warbler comes stealing back.
But why need he come? For your soul's at rest
And the song in the heart, Ah! that is best!

Just whistle a bit if the night be drear,
And the stars refuse to shine,
And a gleam that mocks the starlight clear
Within you grows benign;
'Till the dearth of light in the glooming skies
Is lost to the sight of your soul-lit eyes.
What matters the absence of moon or star?
The light within is the best by far!

Just whistle a bit if your heart be sore,
'Tis a wonderful balm for pain.
Just pipe some old melody o'er and o'er
Till it soothes like summer rain.
And perhaps 'twould be best, in a later day,
When Death comes stalking adown the way,
To knock at your bosom and see if you're fit,
Then, as you wait calmly, just whistle a bit.

—Paul Lawrence Dunbar.

Among the Books

SHERMAN: "FOOD AND NUTRITION"

Chemistry of Food and Nutrition. By Henry C. Sherman, Ph. D. Second Edition Rewritten and Enlarged. New York: The MacMillan Company. 1918. Price $2.00.

It is to be feared that, with a great many physicians, certainly most of those having graduated fifteen and more years ago, the experimental basis of dietetics is somewhat hazy and not sufficiently exact to enable them to decide upon the food requirements in a given case in order to correct existing conditions of malnutrition. Dietetics does not consist solely in the ability to prescribe foods that are easily digested. The application of dietetic rules must be adjusted to the individual requirements of the patient fully as much as must the drugs that may be prescribed for him. In like manner as, for a useful knowledge of pathology, it is necessary to be familiar with physiology since pathology is but abnormal physiology, so, the food requirements of the diseased organism must be determined with reference to those of the normal organism and with consideration to the abnormalities and perversions in metabolism that exist.

It is, therefore, of importance to study a volume like the one before us in which the questions of nutrition are discussed in a manner to enable the physician to apply the information gained in prescribing suitable foods for sick people. Doctor Sherman takes up successively the chemistry of the various foodstuffs, as, carbohydrates, fats, proteins, then discusses the enzymes and the process of digestion describing the fate of the foodstuffs in the course of metabolism. After this, the fuel value of food and the energy requirements of the body are considered, attention being given to the requirements of proteins as well as of other foodstuffs, including minerals.

In view of the importance acquired of recent years by deficiency diseases, such as scurvy, pellagra, beriberi, the chapter on antiscorbutic and antineuritic properties of certain foods is of special interest. Further, it is necessary to be familiar with the importance of food in the relation to growth and development.

Thus, a study of Doctor Sherman's volume will lead the student to the recognition of the food requirements of the healthy, and, by inference, of the diseased organism whereby the laws of dietetics will be complied with more correctly because with reference to physiological laws.

WILEY: "BEVERAGES"

Beverages and Their Adulteration, Origin, Composition, Manufacture, Natural, Artificial, Fermented, Distilled, Alkaloidal and Fruit Juices. By Harvey W. Wiley, M. D. With 42 Illustrations. Philadelphia: P. Blakiston's Son & Co. 1919. Price $3.50.

Doctor Wiley's textbook on the origin, manufacture and composition of food products, which was published a few years ago, finds in the book before us a companion volume that completes the information on food-drinks as well as beverages, in a highly acceptable manner. Doctor Wiley takes up, after an introduction discussing the general peculiarities and characteristics of beverages, the consideration of water, plain and mineral, after which he describes the origin, composition, manufacture, and so forth, of soft drinks and fruit juices, all of which are acquiring a constantly increasing importance, especially since the adoption of the constitutional amendment in accordance with which the use of alcoholic beverages will become illegal in the near future. Information given about coffee, tea, cocoa and chocolate, also, not only is interesting but of definite usefulness.

Further, chapters dealing with wine, beer, ale and other malted drinks, then the distilled beverages, whisky, brandy, rum, gin and the cordials have been introduced deliberately, Doctor Wiley pointing out that these by no means are out of place. In-

deed, "the American citizen who desires all the information possible in making up his mind on this question certainly will be helped by a knowledge of the origin, manufacture, chemical composition and geographical distribution of the various forms of alcoholic beverages, both fermented and distilled."

A discussion of alcoholic remedies and of beverages containing cocaine closes the volume which is further supplied with a carefully prepared index of subjects.

The treatment of the various subjects dealt with in this volume is exceedingly interesting, a surprising amount of valuable information, including historical notes, being presented. Doctor Wiley has claims to the gratitude of physicians for having collected in his two volumes all the salient and relevant information on the characteristics of foods and beverages that the physician should be able to secure on call. Both books should be found in the library of every physician and should be consulted frequently.

"PROGRESSIVE MEDICINE"

The March issue of *Progressive Medicine* contains the customary discussions of the recent literature on surgery, infectious diseases, diseases of children, and some of the specialties. As is very natural, the abstracts of the literature dealing with infectious diseases, notably pneumonia and influenza, are of particular interest in view of our recent experiences with these serious epidemic maladies.

Progressive Medicine is a quarterly digest of advances, discoveries and improvements in the medical and surgical sciences, being edited by Dr. Hobart Amory Hare, and Dr. Leighton F. Appleton, and published by Lea & Febiger, in Philadelphia and New York, at a subscription price of $6.00 for the four annual numbers. The number before us contains over three hundred pages of text, from which it may be seen that it is by no means an expensive publication.

POPE: "DIETARY COMPUTER"

A Practical Dietary Computer. By Amy Elizabeth Pope. New York: G. P. Putnam's Sons. 1917. Price $1.25.

Having studied the subject of foods and nutrition as outlined in Doctor Sherman's volume, discussed in this issue, and having familiarized himself with the rules outlined in textbooks on dietetics, the physician will still be grateful for a small handy volume that contains in condensed and available form lists of foods and their composition as to protein, fat, carbohydrates and water, as well as the available heat units to be derived from them and which will therefore enable him readily to arrange dietary lists for those of his patients in whom the problems of diet are of essential importance.

The author has prepared the little book more especially for nurses and others whose knowledge of dietetics is not very extensive. Nevertheless, it will form a very convenient reference book even to the physician who has studied the subject of dietetics in all its phases. We believe that Miss Pope's little volume is of great interest and it is cordially recommended.

LLOYD: "LICE"

Lice and Their Menace to Man. By Lieut. L. L. Lloyd. With a Chapter on Trench Fever by Major W. Byam. London: Oxford University Press. 1919.

Under normal conditions the body louse is not spoken of by, much less received in, the best society. However, the war has changed all that and the cootie, that little pest the visitations of which seemingly could not be escaped by anyone in the trenches, proved to us that the louse lives in a closer association with man than does any other insect.

It was but natural that the problems connected with the "life and works" of pediculus humanus and its kin should be made the subject of monographic treatment. This is presented concisely in the volume before us in which all information about the body-louse, head-louse, and crab-louse is presented and more particular account is taken of the various diseases that are disseminated through the agency of these insects.

WARBASSE: "SURGICAL TREATMENT"

Surgical Treatment. A Practical Treatise on the Therapy of Surgical Diseases for the Use of Practitioners and Students of Surgery. By James Peter Warbasse. In Three Volumes, With 2400 Illustrations.

Volume III. Philadelphia: W. B. Saunders Company. 1919. Price $30.00 per set.

With the present volume, Doctor Warbasse's practical treatise on the therapy of surgical diseases is completed. The third volume deals with the treatment of hernia, diseases of rectum and anus, the vermiform appendix, liver and gall-bladder, genito-urinary organs, male and female; then, surgical diseases of the extremities, plastic and cosmetic surgery, electricity as it applies in surgical treatment and first aid to the injured. There is a splendid chapter on bandaging and one of the economics of surgical treatment, while an appendix deals with surgical materials, instruments, anesthetics, and so forth.

The usefulness of this work is much increased by the complete index which is added in a separate volume for handy and convenient reference.

GARDNER & LINCOLN: "LABORATORY DIAGNOSIS"

Manual of Laboratory Diagnosis. By Stella M. Gardner, M. D., and Mary C. Lincoln, Ph. B., M. D. Chicago: Chicago Medical Book Company. 1917. Price $1.25.

There is a constant call for small and handy laboratory guides, although a considerable number of these manuals is available. The authors of the little book before us are known to Chicago physicians as reliable and accomplished laboratory workers. Their purpose was first, and chiefly, to give practical working directions for making the important clinical laboratory tests, and, second, to give the clinical significance of the findings. In the opinion of the Reviewer, the second purpose deserves to be stressed more than has been done in the past. It is seemingly simple enough to receive the results of a uranalysis. The inferences to be drawn from a uranalysis report, however, are all too often beyond the ken of the general practitioner. Indeed, it occurs frequently enough that we are consulted on exactly that point. The Reviewer would like to see a book published in which the reading of laboratory reports is discussed in greater detail than is customary and in which the inferences that may be drawn are outlined on the basis of typical examinations, in such a manner that the practitioner will gain some definite information that will prove of actual and practical value to him. While, for instance, the discussion on pages 60 to 66 of the little book before us are very good, we miss suggestions as to what significance is to be attached to the presence of indican and skatol, of oxalates and other substances, the presence of which causes urinary findings to be abnormal.

STITT: "TROPICAL DISEASES"

The Diagnostics and Treatment of Tropical Diseases. By E. R. Stitt, M. D. Third Edition Revised. With 119 Illustrations. Philadelphia: P. Blakiston's Son & Co. 1919. Price $2.00.

The present, third, edition of Stitt's textbook of tropical diseases follows its predecessor in less than a year. It has justly been decided that there was no need for any material changes in this edition. However, in view of the decided advances in our knowledge of trench fever, this subject has been rewritten.

A textbook of tropical diseases is not of interest solely to physicians living in tropical and semitropical countries; we in the United States of America, even in the northern states, often have our attention directed to problems that confront our southern colleagues constantly and it is incumbent upon us to acquire at least a working knowledge of diseases peculiar to countries situated in the torrid zone. Of all the textbooks on the subject with which we are familiar, Doctor Stitt's treatise seems to us to be the most practical one and the most informative. It is small and handy, well written, the description being terse but entirely adequate for practical use. This textbook is recommended cordially to physicians desirous of acquiring a working knowledge of tropical diseases and their treatment.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6424.—"Arteriosclerosis, and Calcium Salts." C. W., New York, desires to know whether the combination marketed under the tradename of "Calcalith" (calcium carbonate, grs. 10; lithium carbonate; gr. 1, colchicine, gr. 1-500; aromatics, q. s.) is indicated even when arteriosclerosis is complicated with the uric-acid diathesis; his doubt being because of the calcium in it.

While we cannot at the present moment, refer you to any definite literature, we remember that the importance of calcium in the causation and maintenance of arteriosclerosis has been emphatically questioned, and we are under the impression that the presence of calcium in a remedy presents no contraindication whatever in the treatment of the uric-acid diathesis in a patient also showing signs of arteriosclerosis.

You will remember, doctor, that an important part of the treatment in the uric-acid diathesis and in arteriosclerosis is, the supervision of the diet. In the *Journal of the A. M. A.* for November 30, 1912 (p. 1935), T. F. Coleman reminds us that the majority of patients eat too much, and nearly all of them too rapidly. In mild cases, cutting down the diet may be sufficient, eliminating such articles as are likely to overburden the alimentary tract and the kidneys. In general, meat should be eaten but sparingly. The sugars may be borne well by some, but, they are prone to lead to gastrointestinal fermentation. Milk, variously modified, eggs, fresh vegetables, and fruits are more or less staple articles, as also is bread, and these may be taken by most patients. In advanced cases, a rigidly restricted diet at all times is imperative. In all cases, the amount of alcohol, tobacco, tea, and coffee allowed should be moderate, and doubtless the best rule in many cases is: "Not at all." Since a large degree of sclerosis is present in most persons after middle life, it is not wise or expedient to be extreme in the matter of diet, until our knowledge becomes more exact.

Incidentally, it may not be amiss to remind you that, in circulatory disturbances depending upon arteriosclerosis, nitroglycerin acts quickly, and may be employed for a long time without harm, its chief drawback being its evanescence. It rapidly causes dilatation of the peripheral vessels and, if pushed sufficiently far, will cause flushing of the face and headache. It not only relieves the overburdened heart, but, increases the activity of the kidneys. It may be administered, in appropriate cases, in doses of from 1-50 to 1-100 grain every two or three hours for long periods, without producing injurious effects.

The present writer intends to study this problem at greater detail in the near future and to incorporate it in an article to be published in these pages.

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QUERY 6425.—"Albuminuria in Pregnancy." G. P. D., Illinois, sends in a specimen of urine, with the following explanatory letter:

"This is taken from a 24-hour specimen. The total quantity for twenty-four hours was 4 pints. I have not examined this specimen; but, two weeks ago, the urine seemed to have a trace of albumin (nitric-acid contact) and a specific gravity at that time of 1008. Its color was like that of the specimen sent you. Day before yesterday, the specific gravity was 1020 and seemingly there was no albumin.

"History of the case: In 1916, the woman became pregnant, when she was both-

ered a great deal by swelling of the legs and feet, but, did not let us know of it at the time, thinking this to be natural (she being a primipara). She carried the child to nearly term. The babe was born dead, and, as I believe, had been dead for several days. Recovery was slow. Albumin was present—very much so. The albumin ring appeared instantly. After several weeks, the people went out of my care. Now they are back again and we believe the woman to be pregnant, although not sure of it. Now I wish you would help me in whatever way you can and offer some suggestions. Supposing albumin appears early, should abortion be induced?"

Examination of the urine submitted does not show any distinct evidence of the existence of nephritis in the subject. Rather, we should be inclined to think that a low-grade cystitis obtains. Note the presence of many colon-bacilli of mucin, pus-cells, and many squamous epithelium; while albumin, casts and red blood-corpuscles are absent. The amount of urine voided certainly is satisfactory, although the urea output is distinctly low and there is some evidence of intestinal fermentation, indican and skatol being present in moderate amounts.

The mere fact that this woman gave birth to a dead child and, prior to that, had edema of the extremities, would not, in our opinion, warrant the induction of premature labor in a subsequent pregnancy. Naturally, the milder degrees of nephritis can be recognized only by the presence of albuminuria, although it is possible, of course, for one to have a considerable amount of albumin in the urine without there being any definite inflammatory changes in the kidney.

In the socalled kidney of pregnancy, we have symptoms of subacute nephritis coming on during the later months and persisting throughout the pregnancy, and passing off after delivery, not to recur. So, also, we may encounter the relapsing type, in which albumin and casts are found during the early months of pregnancy, these disappearing after delivery, but, reappearing with each subsequent pregnancy.

When a woman suffering from Bright's disease becomes pregnant, it is more than probable, of course, that the condition will be aggravated and that thus a local edema may go on to general anasarca; when the amount of urine voided diminishes steadily, there is an increase of albumin, a higher specific gravity, and diminution in the total quantity of the urea; the digestion becomes disordered, and headache, vomiting, disturbance of vision, drowsiness, and ultimately, twitching of the muscles or the limbs, progressing to actual convulsions, and ending in coma and death. During some stage in this sequence of events, the pregnancy probably will terminate prematurely, usually preceded by the death of the fetus.

Eclamsia is not especially liable to occur in true Bright's disease, being more commonly found in association with the kidney of pregnancy. In the relapsing form (so called), of nephritis, the symptoms very closely resemble those of true acute Bright's disease. They come on early and the fetus usually dies.

Where persistent albuminuria and other serious symptoms are observed, the question arises, of course, as to the advisability of inducing premature labor. On this point, there exists a wide diversity of opinion. In well-recognized, chronic Bright's disease, many writers recommend early abortion, in order to save the mother from the almost certain aggravation of symptoms and the possible aggravation of the disease. Others, again (and with whom the present writer holds), have come to the conclusion that, in chronic nephritis, pregnancy should be artificially interrupted only in the interest of the mother, when, despite suitable treatment, the symptoms of the disease grow worse or, even, when they fail to improve. Naturally, if the operation is to be successful, it must be undertaken before the mother's condition has reached such a state that there is almost complete suppression of urine and uremia is threatened.

In nephritits owing to pregnancy, all symptoms arise, as a rule, in the later months, and the induction of labor is seldom required; in fact, very competent obstetricians insist that labor should never be induced because of the kidney of pregnancy, inasmuch as the operation is more dangerous than the eclampsia itself. If, however, despite any treatment, medicinal and dietetic (and the latter is most important), the symptoms steadily become more serious, labor may be induced, with advantage; for, in such cases, if the pregnancy is not terminated, the death of the mother is almost certain. And this view

is the more easily accepted when we remember that the fetal mortality amounts to 50 or 60 percent.

In this case we would recommend careful dieting, the administration of salines, and at least 2 grains of arbutin three times daily. It is an excellent idea to give, every week, a few small doses of blue mass and soda in the evening; and your patient should be instructed to take a salt- or, better, still, an epsom-salt sponge-bath every third of fourth day.

The condition of the pulse and blood pressure should be carefully watched, and it may be necessary to prescribe small doses of some active preparation of digitalis. This writer has observed excellent results from the use of scillitin (squill).

The patient's urine should be examined every ten or fourteen days. Should albumin appear in any appreciable amount, she should be placed upon an absolute milk-diet.

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QUERY 6426.—"Hysteria—Neuritis—Autointoxication?" W. S. C., Virginia, writes as follows:

"I am stumpt. Have a lady whom I shall lose to another doctor if I don't help her soon. Has been to three already. Her pulse is 130. After a full meal (she eats everything), a pain starts in the arm and centers around the base of brain. Pain terrible, shooting and darting as she expresses it. Loses her mind then and wants to fight, her husband says. Nothing wrong with kidneys—no swelling anywhere. When the pain comes, she acts like a woodchopper. I am giving her now, starting today, calcium iodized in 5-grs. tablets; elix. pepsin, teaspoonful after meals with 5-grs. doses of pepsin. Three times a day the elixir of 5 bromides with 10 drops tincture digitalis. Bowels are regular, tongue is clear. Blood pressure high. I cut out coffee and diminished the daily amount of snuff. I let her talk three hours today and when she paid her bill, told her I charged one dollar per hour—got $3.00. Can you get anything out of my description?

Where does the trouble lie? I say, in the stomach. Help me if you can. As she is nervous, a doctor told her she may be paralyzed.

We are not sure that this is either neuritis or hysteria. In neuritis, there is evidence of local trouble, tenderness on pressure, sometimes extreme hyperesthesia, while at other times there is a hypo- or anesthesia. The pain usually radiates along the course of the nerve, but, we do not remember having seen any description where the pain traveled to the occipital region.

Hysterical women are not usually large eaters, at least in public. They are more often apparently small eaters but "piece" in between. This patient is a large eater, and has a high blood pressure; also she seems to take snuff freely. Then, of course, there is a severe pain which seems to come after a full meal. Those are the only points to go upon. We are trying to get some connection between neuralgia in the arm and a nervous upset due to overeating. At least we assume that the lady eats too much. It would have to be determined whether there is a history of injury to the arm in any way, whether trauma or excessive muscular contractions, exposure to high degrees of cold or heat, that would help in deciding upon the nature.

As for treatment, means should be taken to reduce the high blood pressure, to control and limit the diet to the needs of her body and then to impress her forcibly with the ability of her physician to relieve her. Vibration, especially with a high-frequency current, undoubtedly would be of great benefit. Possibly injections of nuclein in the painful arm twice a week, 1 mil would help, partly through direct action, partly owing to their moral effect.

In our opinion, there is an hysterical element included in this case, but how large an etiological factor it is we can not say.

By the way, the doctor makes a mistake if he lets off his patients for $1.00 an hour. $2.00 for every half hour would be more like it.

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QUERY 6427.—"Treatment of Catarrh." W. A. B., Iowa, has been troubled with catarrh for years and it has become chronic. He desires to know whether any relief can be secured by the use of catarrhal vaccines, and asks for any other suggestions in the way of treatment. The parts affected particularly are, the throat, head, and nose.

As you are well aware, the treatment of "catarrh" is one of the most difficult problems and rarely is successful and lasting

except in a minority of cases. The reason for this, though, we hold, is that but few (both, patients and physicians) have the required patience and persistence to continue the treatment for sufficient periods of time. Given an organism in a fair state of health, or the health of which can be restored to normal, and there is absolutely no reason why a catarrhal condition of the upper air-passages should not be relieved, provided suitable measures are taken.

One error that is committed frequently is, that patients do not realize the intimate connection existing between "catarrh" and the general health; also between "catarrh" and possible foci of infection in tonsils, tooth-sockets (pyorrhea) and elsewhere.

The important point is, to discover everything that is abnormal, to correct all anomalies, to accustom the body to a perfectly correct mode of functioning; after which local measures undertaken for the relief of the local trouble can be successful, while otherwise they must be limited in their effect.

As to the question of vaccines, it is to be said at the outset that, frequently, they have a very satisfactory action. However, the action of a bacterial vaccine is exerted primarily only with regard to the related infection, the body cells being trained to resist the respective microorganisms, to destroy them and to neutralize the toxins formed by their disintegration. Mechanical, structural changes in the tissues, that are due to the action of these bacteria, are not restored to normal through the direct effect of vaccines, although a favorable influence may be exerted secondarily, by virtue of an inflammatory reaction that can be produced, by proper dosage, in the affected area and which may give rise to a socalled healing inflammation.

With these points in view, we wish to say that a bacterial vaccine by all means may be employed for the relief of your trouble. This should be selected with a view to cover, as nearly as possible, the bacteria that are present in your expectorations. Indeed, we are inclined to give preference in certain cases to autogenous bacterins, prepared from the secretions of the patients for whom they are intended.

At the same time, however, mechanical, local treatment should be instituted, making applications of healing, soothing and stimulating drugs to the inflamed or catarrhal surfaces, whereby the specific action of the bacterins (vaccines) may be enhanced and promoted.

Finally, the state of the organic functioning should be investigated, tonsils must be examined, as also the tooth-sockets, any existing irregularity and anomaly must be corrected. And, by close attention to all these various points, it often is possible to lead a person afflicted with catarrh, no matter of how long standing or how severe, to a satisfactory condition of health. If it is you, yourself, who are so afflicted, it would undoubtedly be best to place yourself in the hands of a competent specialist who also has retained his interest in general medicine, and to persist in the treatment instituted by him, for months or for years—if this be necessary.

"A MAN without a policy, without a definite purpose, without a strong conviction of any kind, who believes a little of everything and not much of anything, who is willing upon pressure to relinquish his opinion on any idea he has conceived, whether it be feasible or not, who does not hold on to any one thing tenaciously, will never accomplish much in this world."—Success.